

CD Stereo Radio Recorder

AZ2785

all versions

Service
Service
Service



Service Manual



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Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

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**CLASS 1
LASER PRODUCT**

Published by SS 0115 Service Audio

Printed in The Netherlands

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Subject to modification

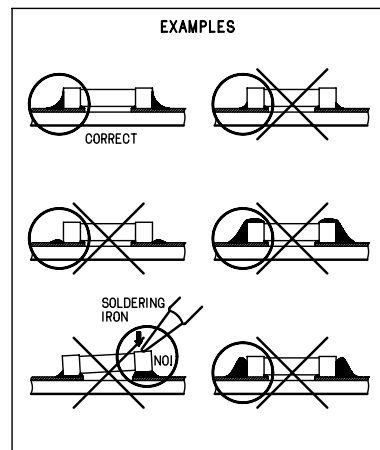
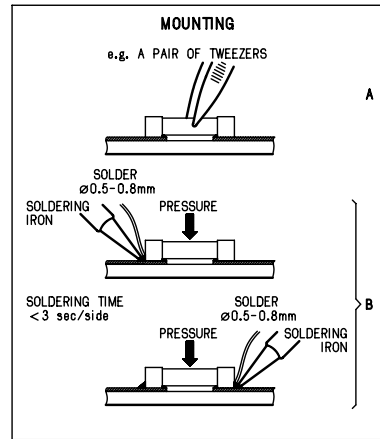
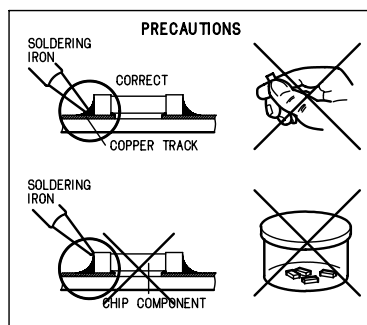
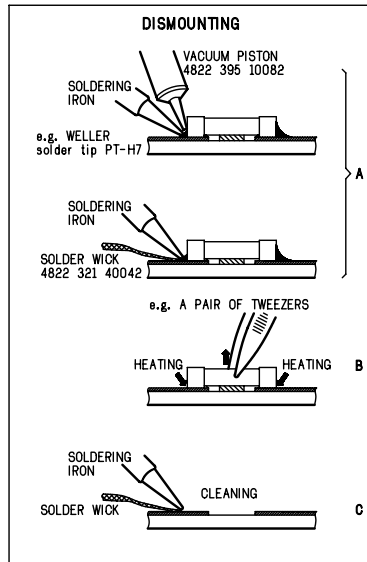
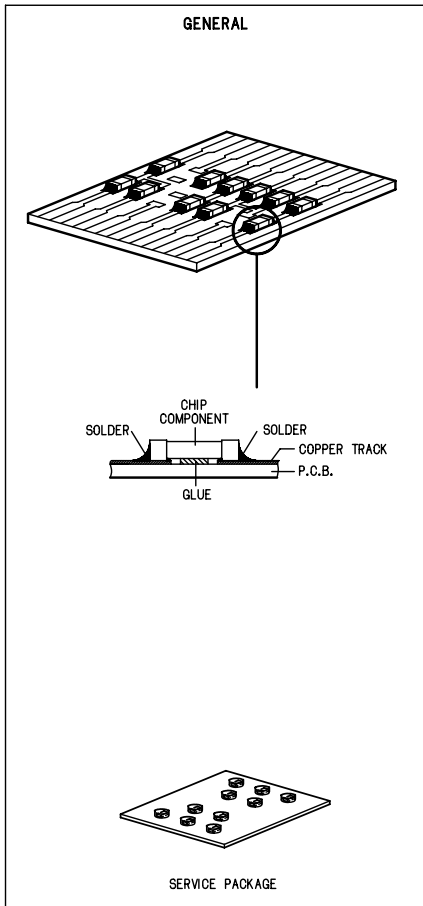
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PHILIPS

HANDLING CHIP COMPONENTS

© **WARNING**

All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wristband with resistance. Keep components and tools at this potential.

ñ **WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat. Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

f **ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfilez le bracelet serti d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

d **WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Sorgen Sie dafür, daß Sie im Reparaturfall über ein Puls-armband mit Widerstand mit dem Massepotential des Gerätes verbunden sind. Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

i **AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

© Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used. Safety components are marked by the symbol ▲

f Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées. Les composants de sécurité sont marqués ▲

SAFETY

d Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Originalersatzteile zu verwenden. Sicherheitsbauteile sind durch das Symbol ▲ markiert.

ñ Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast. De Veiligheidsonderdelen zijn aangeduid met het symbool ▲

i Le norme di sicurezza estigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati. Componenti di sicurezza sono marcati con ▲

© **DANGER:** Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.

S **Varning!**
Osynlig laserstrålning när apparaten är öppnad och spårren är urkopplad. Betrakta ej strålren.

Advarsel!

Usynlig laserstrålning ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for strålning.

**CLASS 1
LASER PRODUCT**

ß **Varoitus!**

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

© After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists. The leakage current must not exceed 0.5mA.

f "Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

TECHNICAL SPECIFICATIONS

GENERAL

Mains voltage	-/01/16 : 120/230 V -/17 : 120 V
Mains frequency	-/01/16 : 50 / 60 Hz -/17 : 60 Hz
Battery	mains : 9 V (R20 x 6) remote : 3V (R03 x 2)
Power consumption	: 35 W
Dimension (W x H x D)	: 655 x 260 x 210mm
Weight	: 7 Kg

AMPLIFIER

Output power	mains : 2 x 2 W battery : 2 x 2 W
Speaker impedance	: 2 x 4 ohm
Frequency response	: 100 Hz - 8 kHz (± 3 dB)

TUNER - FM SECTION

Tuning range	: 87 - 108.5 MHz
IF frequency	: 10.7 MHz
Sensitivity	: ≤ 22 dB at 26dB S/N
Selectivity	: ≥ 20 dB at ± 300 kHz
IF rejection	: ≥ 54 dB
Image rejection	: ≥ 20 dB

TUNER - AM SECTION

Tuning range	MW : 516 - 1620 kHz -/17 : 520 - 1730 kHz
IF frequency	: 468 kHz ± 3 kHz
Sensitivity	MW : $\leq 4000 \mu\text{V/m}$ 26dB S/N
Selectivity	MW : ≥ 16 dB
IF rejection ratio	MW : ≥ 24 dB
Image rejection ratio	MW : ≥ 28 dB

AUDIO CASSETTE RECORDER

Tape speed	: 4.76 cm/sec $\pm 3\%$
Wow & flutter	: < 0.5 WTD DIN
Fast wind/rewind C60	: < 120 sec.
Frequency response	P/B : 125 - 6300 Hz
S/N ratio	: > 40 dB
Erase ration	: > 50 dB (w/BPF)
Bias frequency	: 73 ± 1.5 kHz

COMPACT DISC

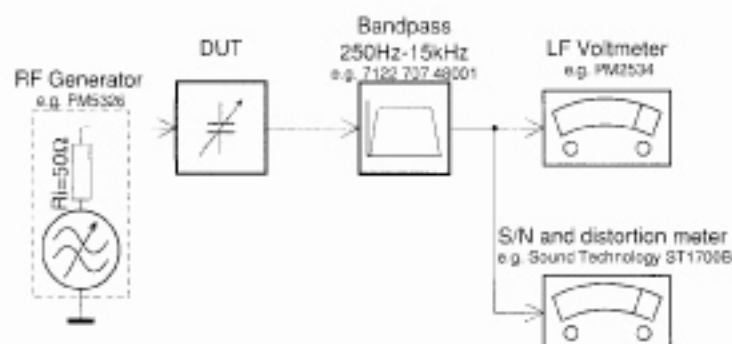
Frequency response	: 63 Hz - 16 kHz
S/N ratio	: > 60 dB
Channel difference	1 kHz : < 2 dB
Channel crosstalk	1 kHz : > 50 dB
Laser wavelength	: 780 ± 20 nm
Laser light power	: < 0.3 mW

SERVICE TOOLS

Audio signal disc SBC 429.....	4822 397 30184
Playability test disc SBC 444.....	4822 397 30245
Test disc 5 (disc without errors) +	
Test disc 5A (disc with dropout errors, black spots and fingerprints)	
SBC 426/426A.....	4822 397 30096
Burn in test disc (65 min. 1kHz signal at -30 dB level without "pause").....	4822 397 30155
Universal test cassette Fe SBC 420.....	4822 397 30071

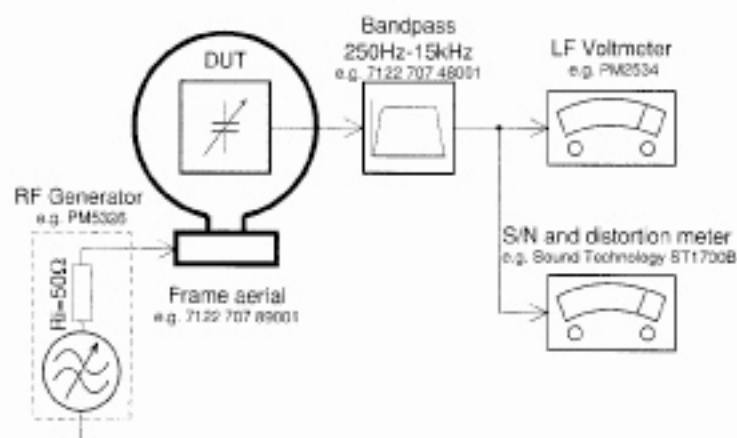
SERVICE MEASUREMENTS

Tuner FM



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilotone (19kHz, 38kHz).

Tuner AM (MW, LW)



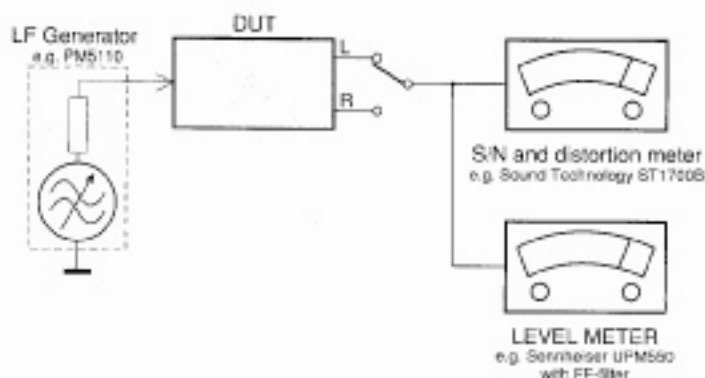
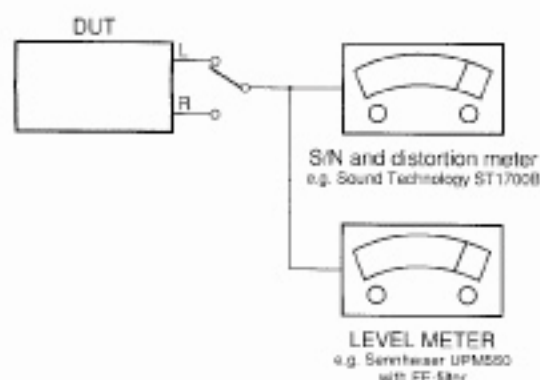
To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday's cage.
Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

CD

Use Audio Signal Disc SBC429 4822 397 30184
(replaces test disc 3)

RECORDER

Use Universal Test Cassette Fe SBC420 4822 397 30071



TOP AND FRONT PANELS

- 1 **POWER - ON/OFF** switch
- 2 **DBB** (Dynamic Bass Boost) - to enhance bass response
- 3 **VOLUME** - to adjust volume level
- 4 **CD, TUNER, TAPE** - to select the source of sound
- 5 **REMOTE SENSOR** - for the remote control (for AZ 2765 model only)
- 6 **CD Display** - to show the CD functions
- 7 **OPEN** - to open/close the CD door
- 8 p 3.5 mm jack for stereo headphone connection

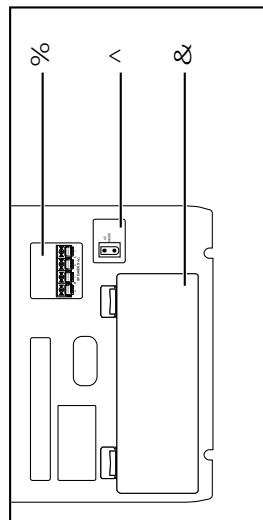
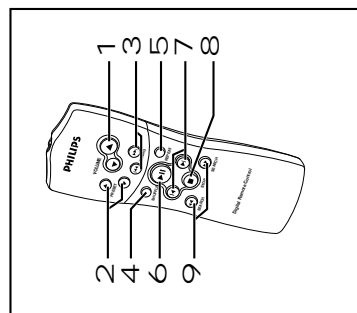
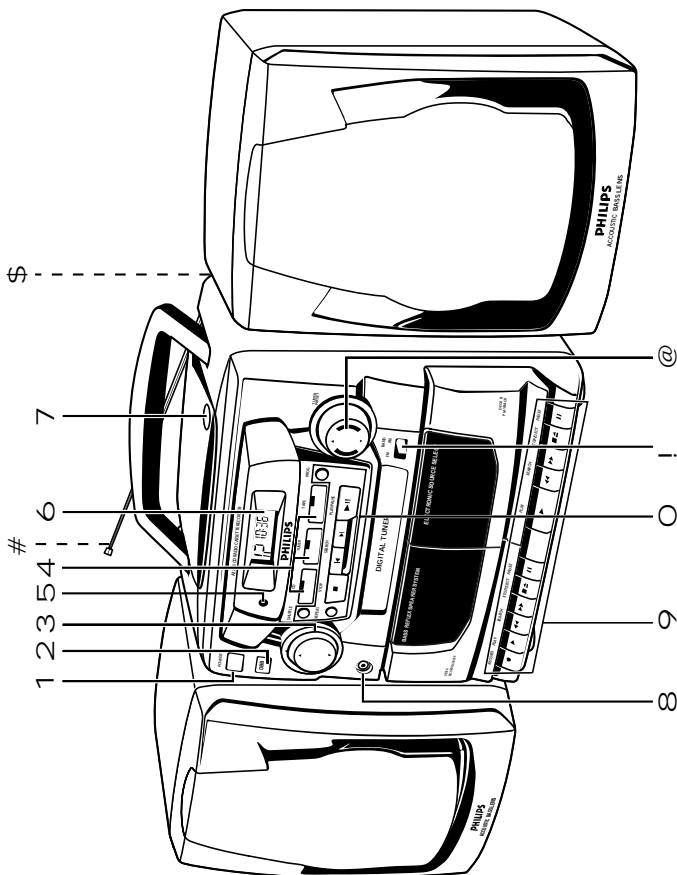
Note: Connecting headphones will mute the speakers

CASSETTE RECORDER:

- Deck 1:
- RECORD 0** - to start recording
 - PLAY 2** - to start playback
 - SEARCH 5** or **6** - to fast rewind/wind the tape
 - STOP•EJECT 9 /** - to stop the tape and to open the cassette door
 - PAUSE ;** - to interrupt recording or playback
- Deck 2:
- PLAY 2** - to start playback
 - SEARCH 5** or **6** - to fast rewind/ wind the tape
 - STOP•EJECT 9 /** - to stop the tape and to open the cassette holder

CD PLAYER:

- SHUFFLE** - to play tracks CD/ program in random order
- REPEAT** - to repeat a track/ CD/ program
- STOP 9** - to stop playback
- SEARCH i , TM / 5 , 6** - to erase a program backwards or forward
- CD:** - to skip or search a passage/ track backwards or forward
- Tuner:** - to tune to a station (down,up)
- PLAY/PAUSE 2;** - to start or pause CD play



- PROG** - to program and review programmed track numbers
- CD:** - to program and review programmed track numbers
- Tuner:** - to program tuner preset stations
- TUNER:**
 - i BAND** - to select FM/MW (AM) waveband
 - @ PRESET 4 , 3** - to select a preset station (down, up)

BACK PANEL

- # Telescopic antenna** - to improve FM reception
- \$ Speaker levers** - to unlock the loudspeaker boxes
- % Speaker** - loudspeaker terminals
- ^ AC MAINS** - inlet for power cord
- & Battery door** - to open the battery compartment
- & Voltage selector** (located inside the battery compartment. Some versions only) - selects the correct local voltage 110/220 V before plugging in the set

REMOTE CONTROL (for AZ 2765 model only)

- 1 **VOLUME 3,4** - adjusts volume level
- 2 **PRESET 3,4** - (up, down) selects a preset radio station
- 3 **TUNING , S** - (down, up) tunes to radio stations
- 4 **SHUFFLE** - to play CD tracks in random order
- 5 **REPEAT** - repeats a track/ CD program/ entire CD
- 6 **2;** - starts CD playback/ interrupts CD playback
- 7 **i , TM** - skips to the beginning of a current track/ previous/ subsequent track
- 8 **STOP 9** - stops CD playback or erases a CD program
- 9 **SEARCH 5, 6** - searches backwards or forwards within a track/CD

Whenever convenient, use the power supply if you want to conserve battery life. Make sure you remove the plug from the set and wall outlet before inserting batteries.

BATTERIES (OPTIONAL)

1. Open the battery compartment and insert six batteries, type R-20, UM-1 or D-cells. (preferably alkaline) with the correct polarity as indicated by the "+" and "-" symbols inside the compartment.

Remote control

Open the battery compartment and insert two batteries, type AAA, R03 or UM4 (preferably alkaline).

2. Replace the compartment door, making sure the batteries are firmly and correctly in place. The set is now ready to operate. Incorrect use of batteries can cause electrolyte leakage and will corrode the compartment or cause the batteries to burst.

Therefore:

- Do not mix battery types: e.g. alkaline with carbon zinc. Only use batteries of the same type for the set.
- When inserting new batteries, do not try to mix old batteries with the new ones.
- Remove the batteries if the set is not to be used for a long time.

Using AC POWER

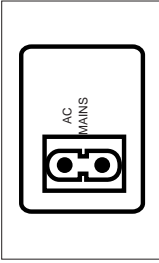
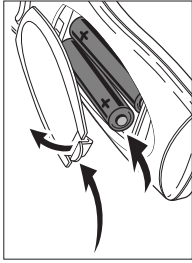
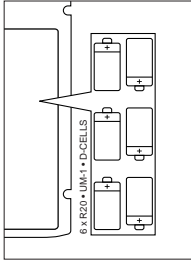
1. Check if the power voltage as shown on the type plate on the base of the set, corresponds to your local power supply. If it does not, consult your dealer or service center.
2. Connect the power cord to the MAINS inlet and the wall outlet. The power supply is now connected and ready for use.
3. To switch off completely, withdraw the power cord from the wall outlet.
 - Disconnect the power cord from the wall outlet to protect your set during heavy thunderstorms.

Batteries contain chemical substances, so they should be disposed of properly.

The type plate is located on the bottom of the set.

Switching POWER on/off: Save energy

Whether you are using mains or battery supply, to avoid unnecessary energy consumption always push the POWER button to the off position after using the set.



REMOVABLE LOUDSPEAKERS

Taking off the speakers

Keep the lever (found on the back corner of the speaker) pressed and slide the speaker upwards.

Attaching the speakers

Slide the speakers from above into the sleeves on the sides of the cabinet. The speakers will click into position.

CONNECTING THE SPEAKERS

1. Connect the right speaker to the R terminal, with the red marked wire to "+" and the black wire to "-".
2. Clip the exposed portion of wire into the corresponding color terminal.
3. Repeat the wiring procedure for the left speaker to terminal L, making sure that you connect the red wire to "+" and black to "-".

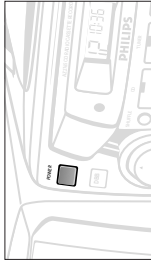
Note:

- Speakers with an impedance of 4 Ohms or higher other than as supplied may be used instead. Speakers with a lower impedance, however, are unsuitable and will damage your set.
- When headphones are inserted into the headphone jack the speakers are disconnected.



GENERAL OPERATION

1. Press **POWER** to on position.
 - A source indicator lights up.
2. Select and press your source button **CD, TUNER or TAPE**.
 - The selected source indicator lights up.
3. Operate sound source according to the instructions of the respective chapter about the function.
4. Adjust the sound using the **VOLUME** and **DBB** controls.
 - For AZ 2765 model only: The volume level is briefly indicated in the display when you press **VOLUME 4**, **3** on the set or remote control.
5. Press **POWER** to off position to switch off the set.
 - The selected source indicator goes out.



INSTRUCTIONS FOR USE

TUNING TO RADIO STATIONS

1. Press **POWER** to on position.
2. Press **TUNER** source button.
- The **TUNER** indicator lights up.
3. Press **BAND** once or more to select the desired **FM/MW (AM)** waveband.
4. To tune to a radio station press **SEARCH i** or **™** for more than 1 second and release when the frequency in the display starts to change.
 - The radio automatically tunes to a station with sufficient reception. Display shows **SRch** during automatic tuning.
5. Repeat step 4 until you find the desired station.
- To tune to a weak station, press **SEARCH i** or **™** briefly and repeatedly until the correct frequency is shown.

To improve radio reception

- For **FM**, pull out the telescopic antenna. Incline and turn the antenna. Reduce its length if the signal is too strong (very close to a transmitter).
- For **MW (AM)**, the set is provided with a built-in antenna so the telescopic antenna is not needed. Direct the antenna by turning the whole set.
- 6. Adjust the sound using **VOLUME** and **DBB**.
- 7. Press **POWER** to off position to switch off the set.
 - The **TUNER** indicator goes out.

Programming radio stations

You can store up to a total of 29 radio stations in the memory.

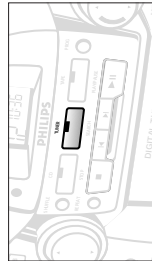
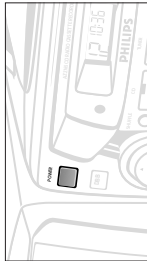
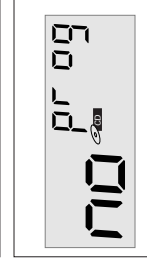
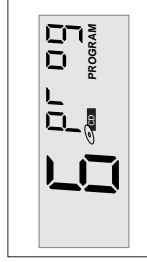
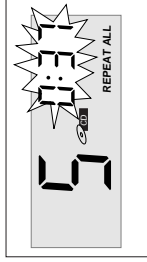
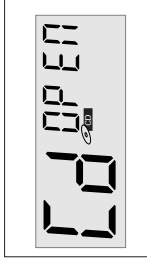
1. Tune to your desired station (see **Tuning to radio stations**).
2. Press **PROG** to activate programming.
 - Display: **PROGRAM** flashes.
3. Press **PRESET 4** or **3** once or more to allocate a number from 1 to 29 to this station.
4. Press **PROG** again to confirm the setting.
 - Display: **PROGRAM** disappears, the preset number and the frequency of the preset station are shown.
5. Repeat the above four steps to store other stations.
 - You can overwrite a preset station by storing another frequency in its place

Tuning to preset stations

Press **PRESET 4** or **3** once or more until the desired preset number appears in the display.

DISPLAY INDICATION FOR CD FUNCTIONS

- CD OPEN**
CD door open
- dISC**
CD inserted
- In stop mode
total track number and total playback time
 - During CD playback
elapsed playback time of current track and current track number
 - **PAUSE**
elapsed playback time freezes and flashes and **PROGRAM**; when you program a selected track number
 - PROGRAM**
program cancelled/ **PROG** pressed for more than 2 seconds
 - no dISC**
no disc/error in CD operation or with the CD (see Troubleshooting)
 - FULL**
program memory full
 - **SHUFFLE/ REPEAT**
modes when the respective mode is activated



INSTRUCTIONS FOR USE

PLAYING A CD

1. Press **POWER** to on position.
2. Press CD source button.
 - The CD indicator lights up.
3. To open the CD door, press **OPEN** on the CD door.
4. Insert a CD with the printed side facing up and press the CD door gently to close.
5. Press **PLAY/PAUSE 2**; on the set to start playback.
6. Adjust the sound using **VOLUME** and **DBB**.
7. To interrupt playback press **PLAY/PAUSE 2**; . To resume, press **PLAY/PAUSE 2**; again.
8. To stop CD play, press **STOP 9**.
9. Press **POWER** to off position to switch off the set.
 - The CD indicator goes out.

Note: CD playback will also stop when:

- you press the CD door open;
- **TUNER** or **TAPE** source is pressed;
- the CD has reached to the end.

Selecting a different track

During playback, you can use **SEARCH** keys to select a particular track.

- If you have selected a track number in the stop or pause position, press **PLAY/PAUSE 2**; to start playback.
- Press **SEARCH** TM once briefly for the next track, or press repeatedly until the desired track number appears in the display.
- Press **SEARCH i** once briefly to return to the beginning of a current track.
- Press **SEARCH j** more than once briefly for a previous track.

Finding a passage within a track

1. Press and hold down **SEARCH i** or TM.
- The CD is played at high speed and low volume.
2. When you recognize the passage you want release the **SEARCH** control.

DIFFERENT PLAY MODES : SHUFFLE AND REPEAT

The **SHUFFLE** and **REPEAT** buttons allow you to select various play modes. The modes can be selected or changed during playback.

SHUFFLE - all tracks are played in random order
REPEAT - plays the current track continuously
REPEAT ALL - repeats the entire CD

1. In the stop position or during playback, select your play mode by pressing **SHUFFLE** or **REPEAT** once or more until the desired play mode is shown.
 - You can use **SEARCH i** or TM to skip tracks during the **SHUFFLE/REPEAT** modes.
- The **SHUFFLE/REPEAT** play options can be combined and used with a program: e.g. **SHUFFLE REPEAT ALL** - repeats the entire CD in random order.
2. To return to normal playback press **SHUFFLE/REPEAT** until the various **SHUFFLE/REPEAT** modes are no longer shown.
 - You can also press **STOP 9** to quit the play mode.

Programming track numbers

You may store up to 20 tracks in the desired sequence. If you like, store any track more than once.

1. In the stop position, press **SEARCH i** or TM for your desired track.
2. When your chosen track number appears, press **PROG** once to store the track.
 - The display shows 'pr og' and **PROGRAM** and the selected track number.
3. Repeat steps 1. and 2. to select and store all desired tracks in this way.

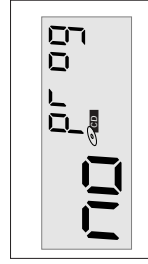
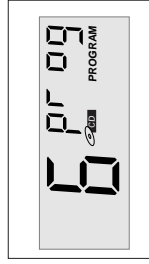
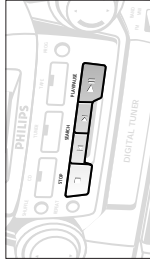
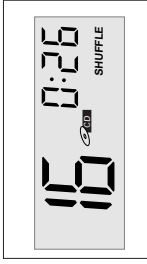
Reviewing your set program

- In the stop position, press and hold down **PROG** for one second or more.
 The display shows all your stored track numbers in sequence.
- You can also review the program during playback.
- To play your program press **PLAY/PAUSE 2**; .

Erasing a program

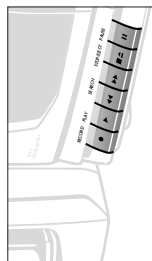
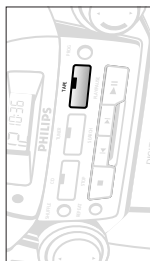
You can erase the contents of the memory by:

- pressing the CD door open;
- pressing **TUNER** or **TAPE** source button;
- pressing **STOP 9** twice during playback/ in stop position
- The display shows 'no pr og' briefly when the program is cancelled.



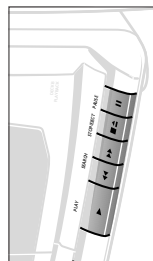
PLAYING A CASSETTE

1. Press **POWER** to on position.
2. Press **TAPE** source button.
 - The **TAPE** indicator lights up.
3. Press **STOP•EJECT 9/** to open the cassette holder and insert a cassette.
4. Press the cassette holder shut.
5. Press **PLAY 2** to start playback.
6. Adjust the sound using the **VOLUME** and **DBB**.
7. To pause playback press **PAUSE ;**. To resume, press the key again.
8. By pressing **5** or **6**, fast winding of the tape is possible in both directions. To stop fast winding, press **STOP•EJECT 9/**.
9. To stop the tape, press **STOP•EJECT 9/**.
 - The keys are automatically released at the end of the tape, except if **PAUSE ;** has been activated.
10. Press **POWER** to off position to switch off the set.
 - The **TAPE** indicator goes out.



Continuous Playback

1. Repeat steps 1 - 4 above, but load both decks. Press **PLAY 2** on deck 2 and deck 2 will start.
2. Press **PAUSE ;** on deck 1 and then **PLAY 2**. As soon as deck 2 stops (end of tape or **STOP•EJECT 9/** pressed), **PAUSE ;** on deck 1 is released and deck 1 will start playback.



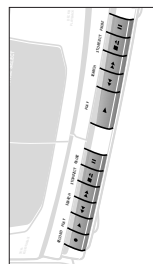
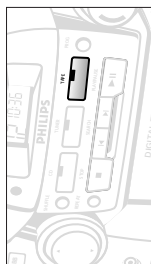
GENERAL INFORMATION ON RECORDING

- Recording is permissible insofar as copyright or other rights of third parties are not infringed.
 - Recording is only possible on **deck 1**.
 - This deck is not suitable for recording on **CHROME (IEC II)** or **METAL (IEC IV)** type cassettes. For recording, use **NORMAL** type cassettes (IEC I) on which the tabs have not been broken.
 - The best recording level is set automatically. Altering the **VOLUME** and **DBB** controls will not affect the recording in progress.
 - At the very beginning and end of the tape, no recording will take place during the 7 seconds, when the leader tape passes the recorder heads.
 - To protect a tape from accidental erasure, have the tape in front of you and break out the left tab.
- Recording on this side is no longer possible. To record over this side again, cover the tabs with a piece of adhesive tape.

Dubbing: Copying from deck 2 to 1

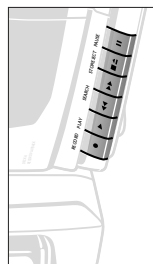
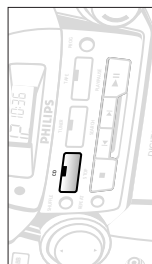
For best results, use mains power or fresh batteries.

1. Select **TAPE** source.
2. Press both **STOP•EJECT 9/** keys and insert a recorded tape into **deck 2** and a suitable tape for recording in **deck 1**.
3. Press **PAUSE ;** on deck 1 and then **RECORD O**.
4. To start dubbing, press **PLAY 2** on deck 2. **PAUSE ;** on deck 1 is then released.
 - By pressing **PAUSE ;** on deck 1, you can omit undesired passages while **deck 2** continues. Press **deck 1 PAUSE ;** to resume dubbing.
 - Pressing **PAUSE ;** on deck 2 will create pauses.
5. To stop recording, press both **STOP•EJECT 9/** keys.



SYNCHRO START CD RECORDING

1. Select **CD** source.
2. Insert a CD and if desired, program track numbers.
3. Press **STOP•EJECT 9/** to open the cassette holder. Insert a blank tape.
4. Press the cassette holder shut.
5. Press **RECORD O** to start recording.
 - Playing of the CD program starts automatically from the beginning of the program. It is not necessary to start the CD player separately.
6. For brief interruptions press **PAUSE ;**. To resume recording, press **PAUSE ;** again.
7. To stop recording, press **STOP•EJECT 9/**.



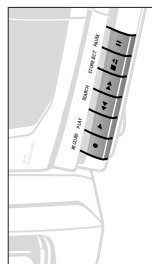
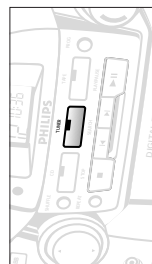
To select and record a particular passage

During CD playback, press and hold down the **SEARCH i** or **TM** on the set to find your passage.

- Press **PLAY/PAUSE 2;** to put the CD player on pause at the selected passage.
- Recording will begin from this exact point in the track when you press **RECORD O**.

Recording from the radio

1. Select **TUNER** mode and **BAND**.
2. Tune to the desired radio station (See **TUNING TO RADIO STATIONS**).
3. Press **STOP•EJECT 9/** of deck 1 to open the cassette holder and insert a blank tape.
4. Press the cassette holder shut.
5. Press **RECORD O** to start recording.
6. For brief interruptions, press **PAUSE ;**. To resume recording, press **PAUSE ;** again.
7. To stop recording, press **STOP•EJECT 9/**.

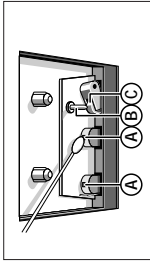


PRECAUTIONS AND SYSTEM MAINTENANCE

- Place the set on a hard, flat surface so that the system does not tilt.
- Do not expose the set, batteries, CDs or cassettes to humidity, rain, sand or excessive heat caused by heating equipment or direct sunlight.
- Do not cover the set. Adequate ventilation with a minimum gap of 15 cm between the ventilation holes and surrounding surfaces is necessary to prevent heat build-up.
- The mechanical parts of the set contain self-lubricating bearings and must not be oiled or lubricated.
- To clean the set, use a soft, slightly dampened chamois leather. Do not use any cleaning agents containing alcohol, ammonia, benzene or abrasives as these may harm the housing.

Tape deck maintenance

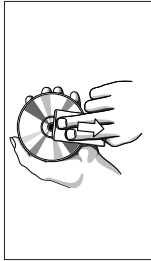
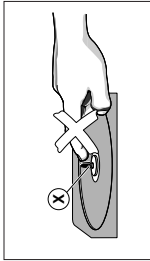
To ensure quality recording and playback of the tape deck, clean parts A, B and C shown in the diagram below, after approx. 50 hours of operation, or on average once a month. Use a cotton bud slightly moistened with alcohol or a special head cleaning fluid to clean both decks.



1. Open the cassette holder by pressing **STOP•EJECT 9/**.
2. Press **PLAY 2** and clean the rubber pressure rollers C.
3. Press **PAUSE** ; and clean the magnetic heads A and also the capstan B.
4. After cleaning, press **STOP•EJECT 9/**.
Cleaning of the heads can also be done by playing a cleaning cassette through once.

CD player and CD handling

- The lens of the CD player should never be touched!
- Sudden changes in the surrounding temperature can cause condensation to form and the lens of your CD player to cloud over. Playing a CD is then not possible. Do not attempt to clean the lens but leave the set in a warm environment until the moisture evaporates.
- Use only Digital Audio CDs.
- Always shut the CD door to keep the CD compartment dust-free. To clean, dust the compartment with a soft dry cloth.
- To take a CD out of its box, press the center spindle while lifting the CD. Always pick up the CD by the edge and replace the CD back in its box after use to avoid scratching and dust.
- To clean the CD, wipe in a straight line from the center towards the edge using a soft, lint-free cloth. Do not use cleaning agents as they may damage the disc.
- Never write on a CD or attach any stickers to it.



If a fault occurs, first check the points listed below before taking the set for repair. If you are unable to remedy a problem by following these hints, consult your dealer or service center.

WARNING: Do not open the set as there is a risk of electric shock. Under no circumstances should you try to repair the set yourself, as this would invalidate the warranty.

PROBLEM	POSSIBLE CAUSE	REMEDY
No sound/power	VOLUME is not adjusted	Adjust the VOLUME
	Headphones connected	Disconnect headphones
	Power cord not securely connected	Connect AC power cord properly
	Batteries dead/ incorrectly inserted	Insert (fresh) batteries correctly
Display does not function properly/ No reaction to operation of any of the controls	Electrostatic discharge	Switch off set, disconnect the power plug and reconnect after a few seconds
	CD playback does not work	CD is badly scratched/ dirty
	Remote control does not function properly	Batteries dead/ incorrectly inserted
		Insert (fresh) batteries correctly
		Distance between the set too large
		Reduce the distance

For AZ 2765 model only

- The CD skips tracks
 - CD is damaged or dirty
 - Replace or clean the CD
 - SHUFFLE or a program is active
 - Quit SHUFFLE/PROGRAM mode(s)
- Poor cassette sound quality
 - Dust and dirt on the heads, etc.
 - Clean deck parts etc., see maintenance
 - Use of incompatible cassette types (METAL or CHROME).
 - Only use NORMAL (IEC I) for recording.
- Recording does not work
 - Cassette tab(s) may be broken
 - Apply a piece of adhesive tape over the missing tab space.

Environmental information

All unnecessary packaging material has been omitted. The packaging can be easily separated into three materials: cardboard, polystyrene and plastic.

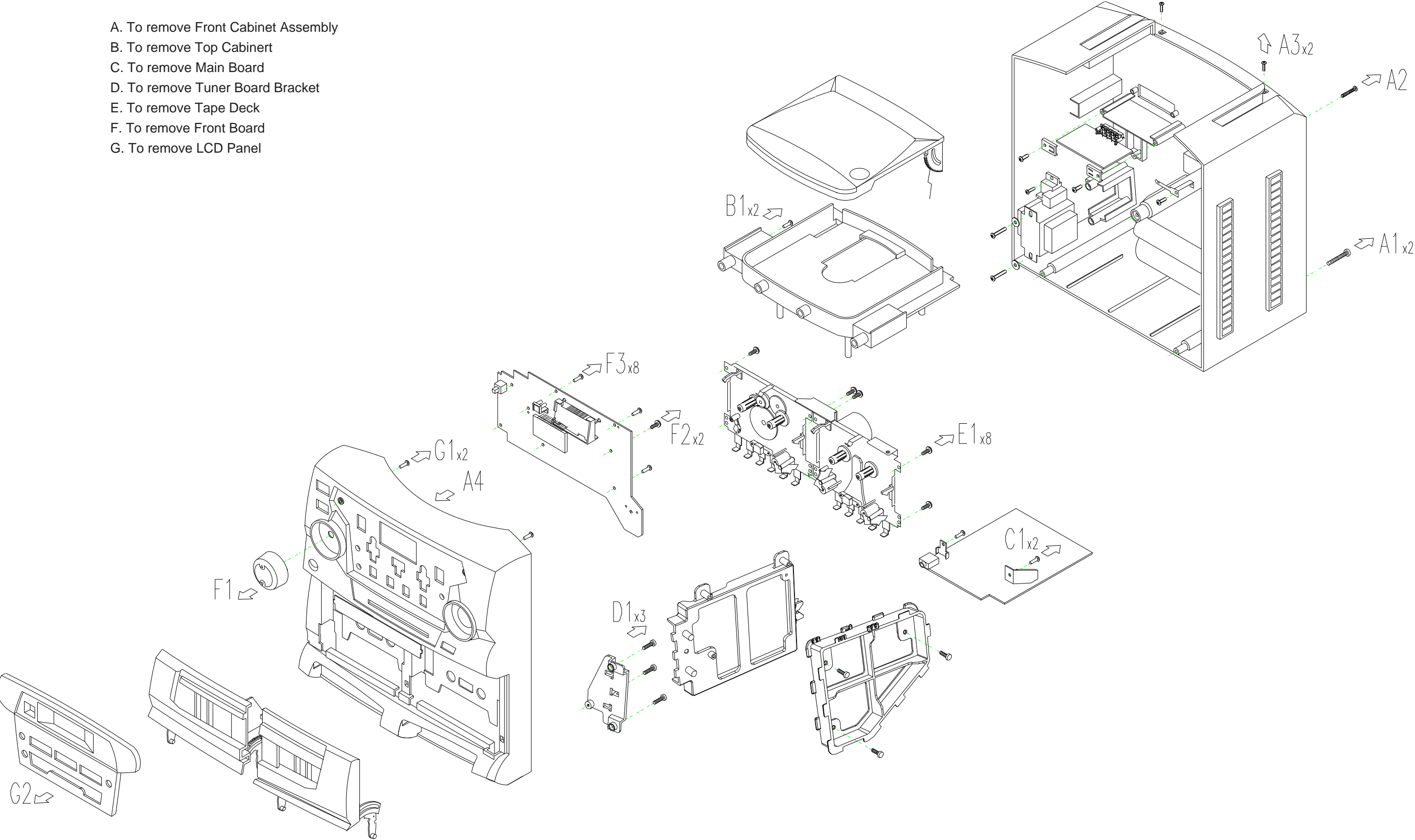
Your set consists of materials which can be recycled if disassembled by a specialized company. Please observe the local regulations regarding the disposal of packing materials, dead batteries and old equipment.

DISASSEMBLY DIAGRAM

4-1

4-1

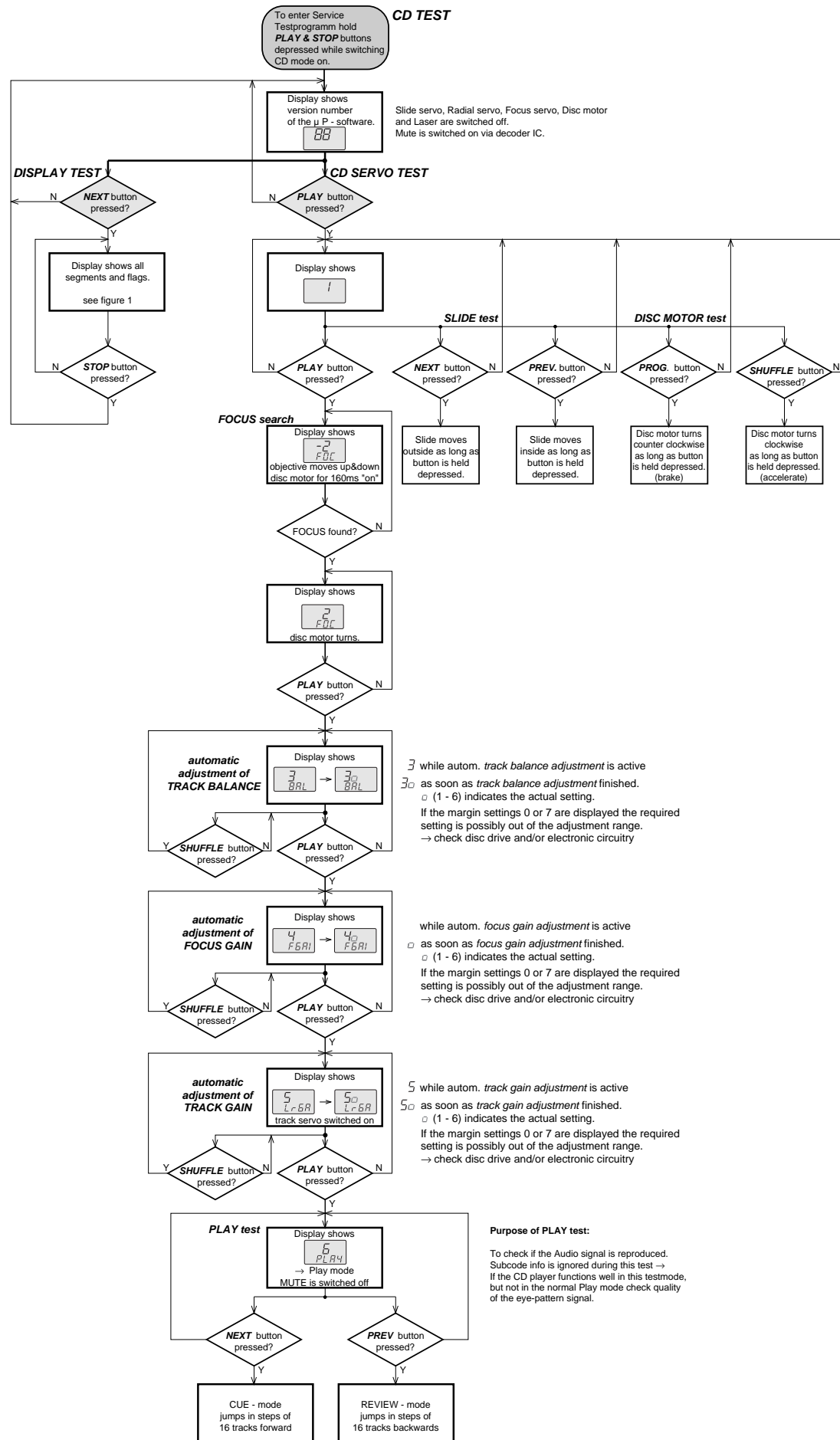
- A. To remove Front Cabinet Assembly
- B. To remove Top Cabinert
- C. To remove Main Board
- D. To remove Tuner Board Bracket
- E. To remove Tape Deck
- F. To remove Front Board
- G. To remove LCD Panel



4-2

-

fig. 1



4-2

To enter Service Testprogramm hold **PLAY & STOP** buttons depressed while switching RADIO mode on.

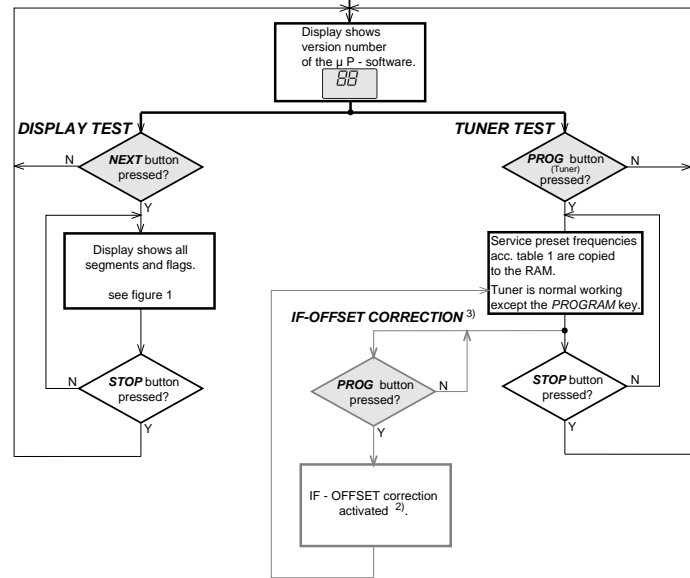


table 1

REGION	EUROPE FM/MW/LW	EUROPE FM/MW/LW/SW	East EUROPE FM/MW/LW	USA FM/MW	OVERSEAS FM/MW	OVERSEAS FM/MW/SW	KOREA FM/MW-stereo	CHINA FM/MW/SW
PRESET	/00/05/20/25	/00/05/20/25	/14/34	/17/37	¹ Grid switchable 10-100kHz/9-50kHz /01/21	¹ Grid switchable 10-100kHz/9-50kHz /01/21	/13/33	/15/35
1	87,5 MHz	87,5 MHz	65,81 MHz	87,5 MHz	87,5 MHz	87,5 MHz	87,5 MHz	87,5 MHz
2	108 MHz	108 MHz	108 MHz	108 MHz	108 MHz	108 MHz	108 MHz	108 MHz
3	531 kHz	531 kHz	74 MHz	530 kHz	530/531 kHz	530/531 kHz	531 kHz	531 kHz
4	1602 kHz	1602 kHz	87,5 MHz	1700 kHz	1700/1602 kHz	1700/1602 kHz	1602 kHz	1602 kHz
5	558 kHz	558 kHz	531 kHz	560 kHz	560/558 kHz	560/558 kHz	558 kHz	558 kHz
6	1494 kHz	1494 kHz	1602 kHz	1500 kHz	1500/1494 kHz	1500/1494 kHz	1494 kHz	1494 kHz
7	153 kHz	153 kHz	558 kHz			3,9 MHz		5,9 MHz
8	279 kHz	279 kHz	1494 kHz			12,1 MHz		17,9 MHz
9	198 kHz	198 kHz	153 kHz			4,2 MHz		6,2 MHz
10		5,9 MHz	279 kHz			11 MHz		17MHz
11		17,9 MHz	198 kHz					
12		6,2 MHz						
13		17MHz						

1) How to set frequency grid:

AM - 9 kHz / FM - 50 kHz : Hold **BAND & TUNING DOWN** buttons depressed while switching MODE-switch to RADIO.

AM - 10 kHz / FM - 100 kHz : Hold **BAND & TUNING UP** buttons depressed while switching MODE-switch to RADIO.

Selected frequency grid is stored in the EEPROM.

2) In sets with 30kHz grid on FM band it may occur that the tuned frequency is indicated wrong on the display because of tolerances of the discriminator filter.
For that reason the testsoftware is prepared for an *automatic IF-offset correction*.

Note: This test functions only with the East European tuner version used in /14/34 set versions.

The test was executed on every set in the production line. In case the discriminator filter or the EEPROM has to be exchanged the *automatic IF-offset correction* should also be executed after repair.

To execute the *automatic IF-offset correction* proceed as follows.

* feed a strong 87.5MHz signal to the antenna

* press the PROGRAM button
The uD starts new several times the search mode.

If the transmitter was found at 87.5 MHz the stop-frequency sent by the

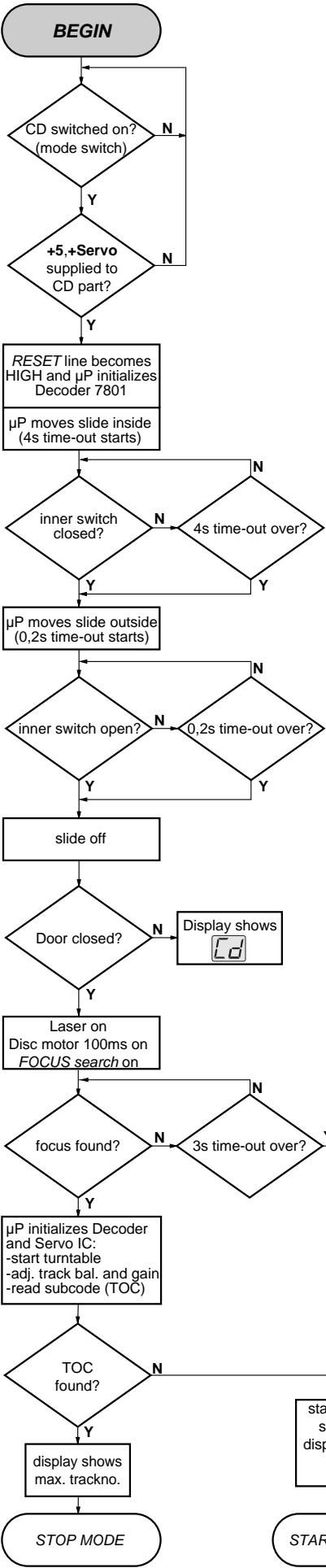
If the transmitter was found at 87.5MHz the stop-frequency sent by the radio IC is compared with the nominal frequency else the display shows "00E".

When the same difference is found twice the value will be stored as offset

The actual used offset is shown on the display (-3, -2, -1, 0, 1, 2, 3).

servtest EVA-PLL, 22109

CD STARTUP PROCEDURE



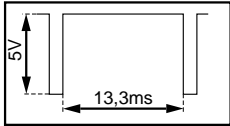
Remark: To check focus servo, slide servo, track servo and turntable use service test program

- Battery empty?
- check +5 and +Servo

check: - door switch

check: - Laser light on ? - Check pin 38 of 7803 and LASER CONTROL circuit
- Focus Servo

check: - Motor control pin 37/38 of Decoder 7801 and
Disc Motor driver 7805
- HF Signal
- Signal on pin7 of Decoder 7801



Abbreviations and Pin-description of CD ICs

SERVO PROCESSOR M62475FP		
Pin	Name	Direction
1-3	A, B, C	Diode array → Servo processor
4-5	E, F	Diode array → Servo processor
6	SGT	Servo processor → Track error ampl. Input
7	TE -	-
8	TEGain	-
9	TG1	-
10	TE out	-
11	TC/Shock	-
12	TS +	-
13	TG2	not connected
14	TS -	-
15	TS out	Servo processor → Servo driver
16	SS +	-
17	SS -	-
18	Slide out	Servo processor → Motor driver
19	DET. FILTER	-
20	BIAS	Servo processor → external electronic
21	GND	-
22	MLA/DIS	μP → Servo processor
23	JP1/SG	μP → Servo processor
24	MCK	μP → Servo processor
25	MSD	μP → Servo processor
26	D _{out}	Servo processor → μP
27	C _{LPF}	-
28	I _{REF}	-
29	V _{CC}	-
30	FS _{OUT}	Servo processor → Servo driver
31	FS -	-
32	FEGain	-
33	FE -	-
34	SGF	Servo processor → Focus error ampl. Input
35	C _{FSR}	-
36	ALPC +	-
37	ALPC -	-
38	ALPC _{OUT}	Servo processor → Laser driver
39	MRC	-
40	HF	Servo processor → Decoder
41	HFI	-
42	ABC	-

4-3

Description	
Current input (central photo diode signal input)	
Current input (satellite photo diode signal input)	
Signal generator output to track servo, sends 1700Hz for adjustment procedure	
Inverting input of track error amplifier	
Gain control pin of track error amplifier	
Track Gain 1 - switch: controls the gain of the track servo amplifier	
Track Error amplifier output	
Track Cross/Shock detector input	
Non inverting input of track servo amplifier	
Track Gain 2 - switch: controls the gain of the track servo amplifier	
Inverting input of side servo amplifier	
Output of track servo amplifier	
Non inverting input of track servo amplifier	
Inverting input of side servo amplifier	
Output of slide servo amplifier	
Pin for connection of DETection FILTER capacitor of ADJUST LOGIC	
Reference Voltage output V _{cc} /2 of internal BIAS-generator	
Ground connection pin (negative supply)	
Serial interface Microprocessor Latch control/DIScharge control for adjustment	
Serial interface Jump control line/Signal Generator input line for adjustment	
Serial interface Clock input line	
Serial interface Data input line	
Serial interface Data output line	
Pin for connection of Low Pass Filter capacitor of ADJUST LOGIC	
Reference current input	
Positive supply connection pin (4V - 5.5V)	
Output of focus servo amplifier	
Inverting input of focus servo amplifier	
Gain control pin of focus error amplifier	
Inverting input of focus error amplifier	
Signal generator output to focus servo, sends 1700Hz for adjustment procedure	
Charge capacitor for Focus Search triangle-generator	
Non inverting input of Automatic Laser Power amplifier	
Inverting input of Automatic Laser Power Control amplifier	
Output of Automatic Laser Power Control amplifier	
Connection pin for capacitor of Mirror detector	
Output of HF amplifier	
Inverting input of HF amplifier	
Sum output of amplified A, B and C input (central photo diode signal input) to external ac-coupling capacitor	

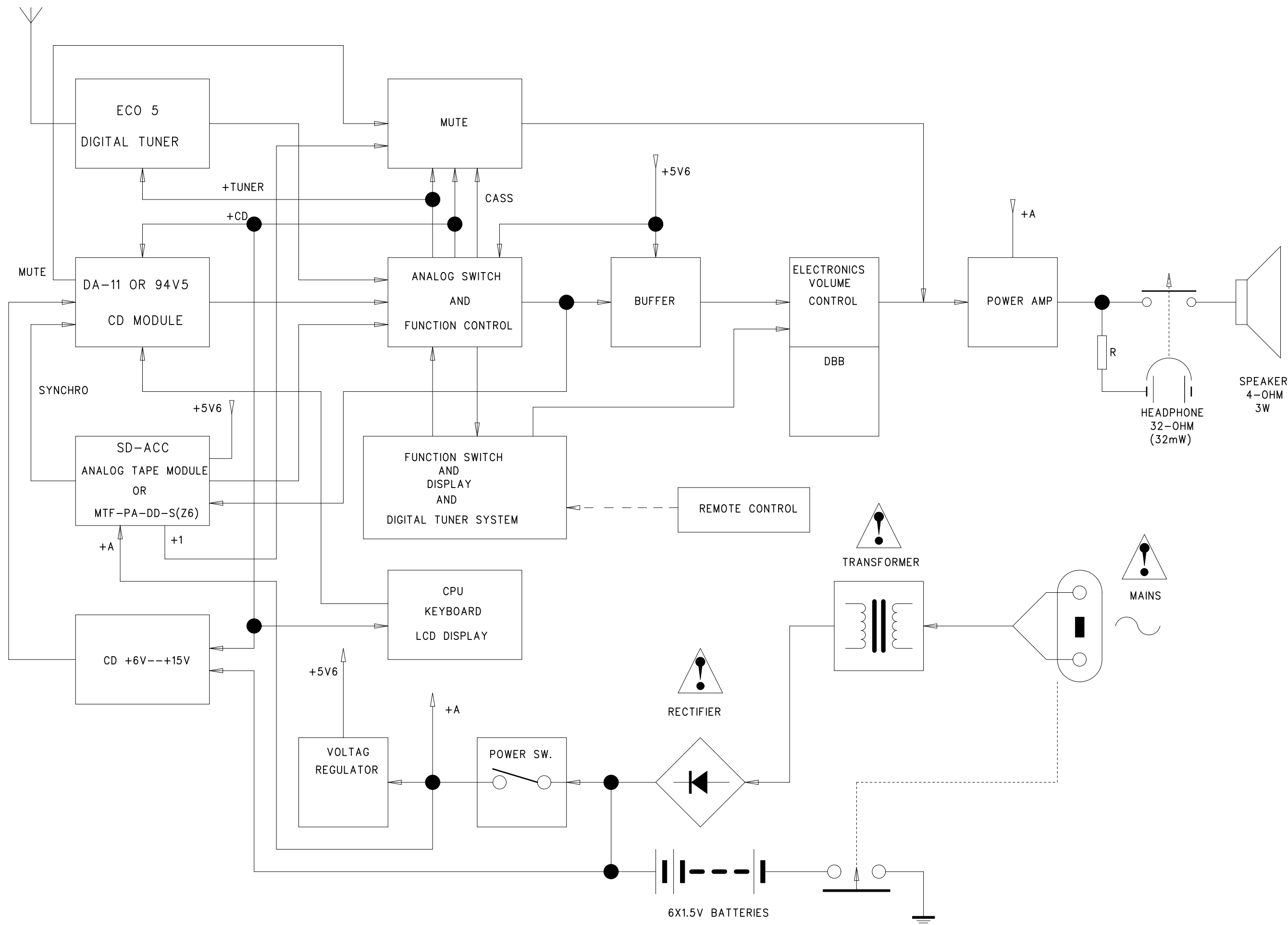
SIGNAL PROCESSOR M65821FP		
Pin	Name	Direction
1	VDD1	-
2	EMP	not connected
3	SYCLK	not connected
4	LOCK	not connected
5	SCAND	not connected
6	CRCF	not connected
7	SBQS	Signal processor → μP
8	MSD	μP ↔ Signal processor
9	RESET	Reset circuit → Signal processor
10	MCK	μP → Signal processor
11	MLA	μP → Signal processor
12-14	MODx	μP → Signal processor
15	VDD2	-
16	IREF	-
17	HFD	Signal processor → μP
18	LPF	-
19	HF	Servo processor → Signal processor
20	TLC	-
21	VSS2	-
22	C846	not connected
23	C423	Signal processor → μP
24	EST2	not connected
25	EST1	not connected
26	XI	X-Tal → Signal processor
27	XO	Signal processor → X-Tal
28	DOTX	not connected
29	DO1	Signal processor → DAC
30	DO2	not connected
31	CKSEL	not connected
32	DSCK	Signal processor → DAC
33	WDCK	Signal processor → DAC
34	LRCK1	Signal processor → DAC
35-36	not used	
37	PWM1	Signal processor → Motor driver
38	PWM2	Signal processor → Motor driver
39-41	not used	
42	VSS1	GND

Description	
+supply for signal processor	
Emphasis flag output	
Frame synchronize output	
Low disc rotation detect output	
Subcode sync signal detection	
Subcode Q CRC check flag output	
Interrupt signal to read out subcode Q data	
Data line	
System reset	
Clock input	
Latch clock input	
Mode setting inputs (0,1,2)	
+supply for data slicer and VCO	
Current reference	
HF signal detect	
PLL loop filter	
HF signal input	
Output from slice level control	
Ground	
8.4672MHz clock output	
4.2336MHz clock output	
Error monitor output 2	
Error monitor output 1	
Crystal oscillator input	
Crystal oscillator output	
Output of digital interface	
Serial data output to DAC	
Serial data output to Dual DAC	
Crystal selector input. H=8MHz, L=16MHz	
Data shift clock	
Word clock	
Left/Right clock	
Left/Right clock	
Disc motor driving (Pulse Width Modulation) output 1	
Disc motor driving (Pulse Width Modulation) output 2	
Digital system ground	

BLOCK DIAGRAM

5-1

5-1



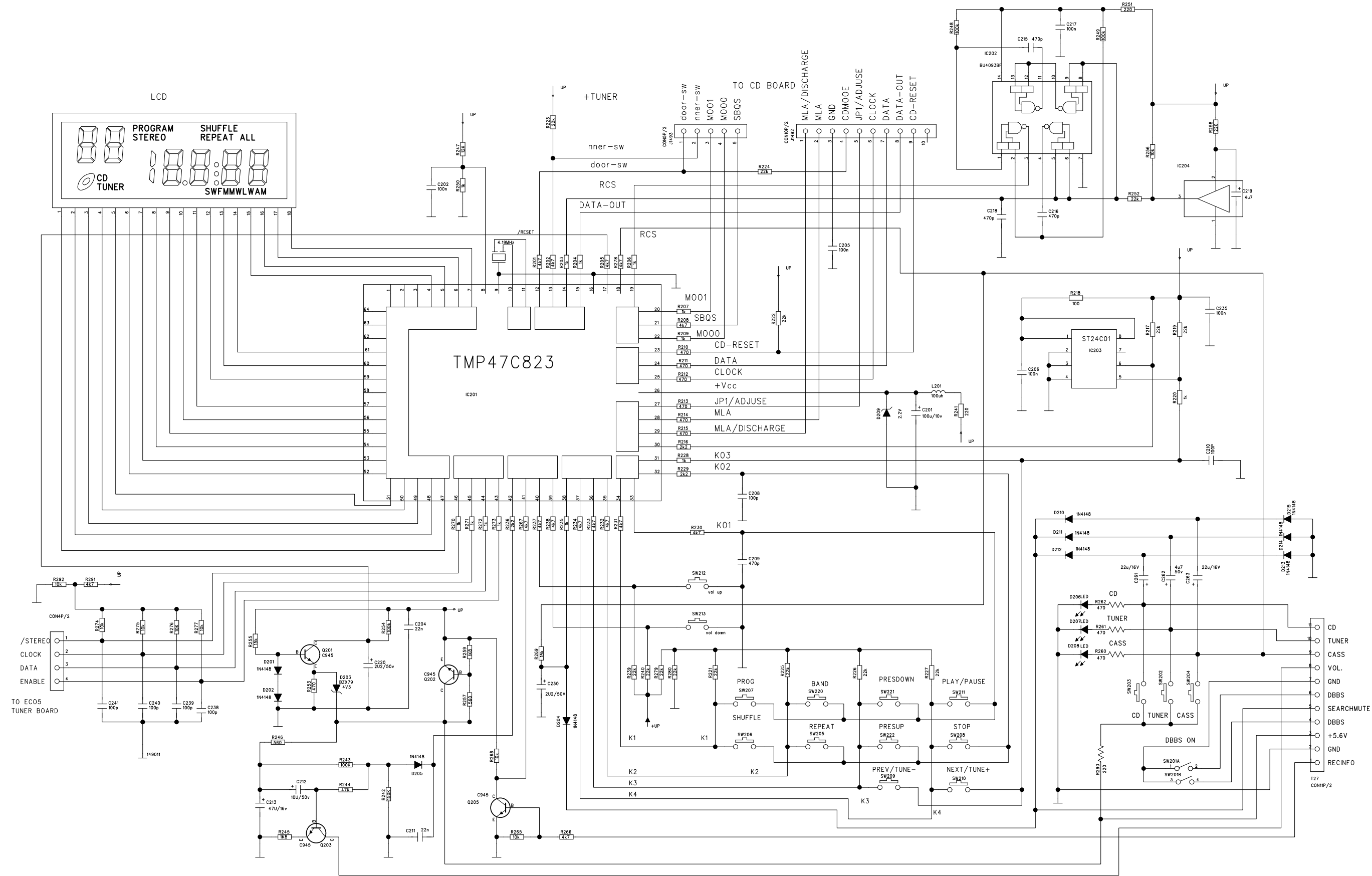
6-1



FRONT BOARD - CIRCUIT DIAGRAM

7-1

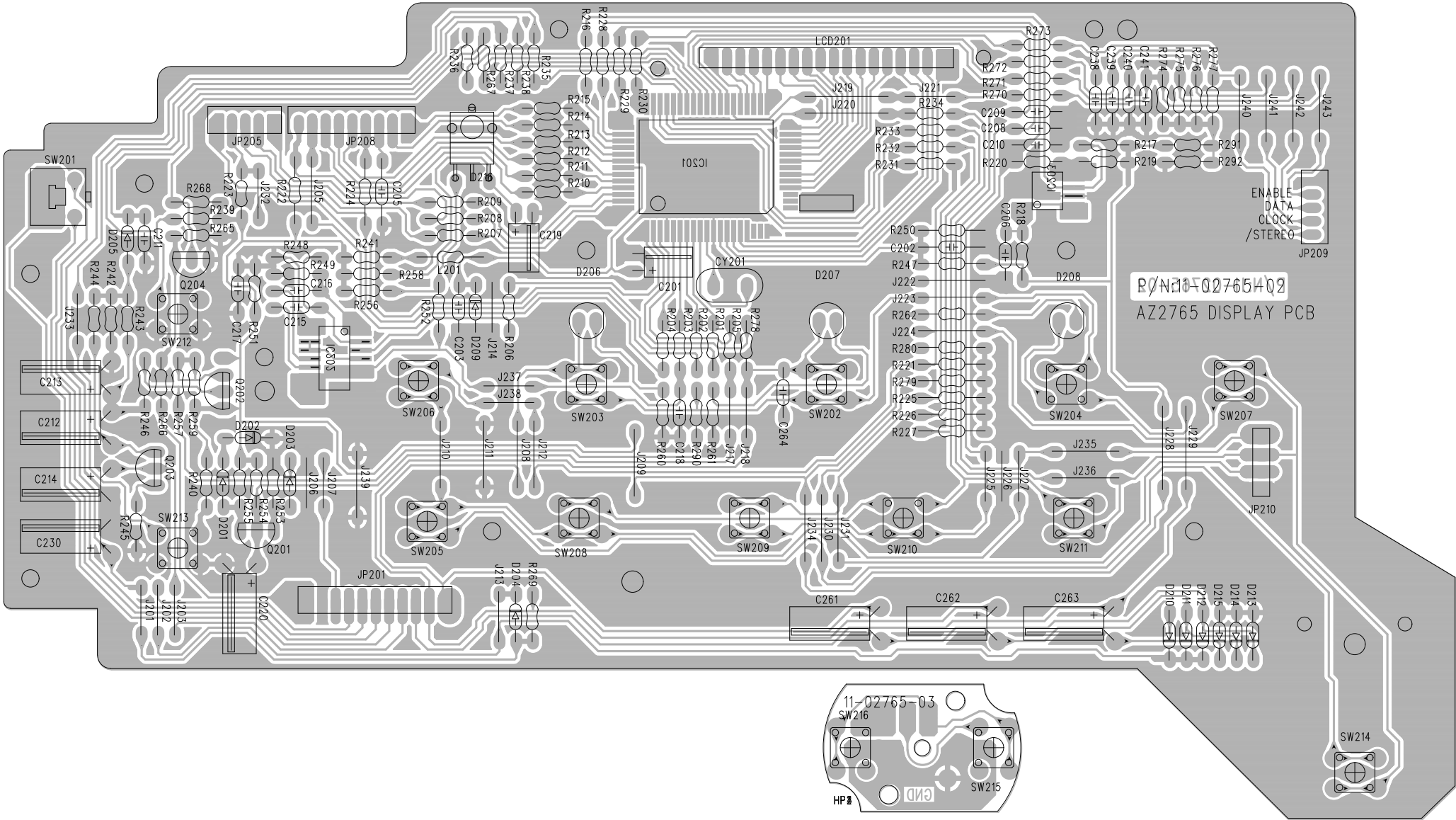
7-1



FRONT BOARD - LAYOUT DIAGRAM

7-2

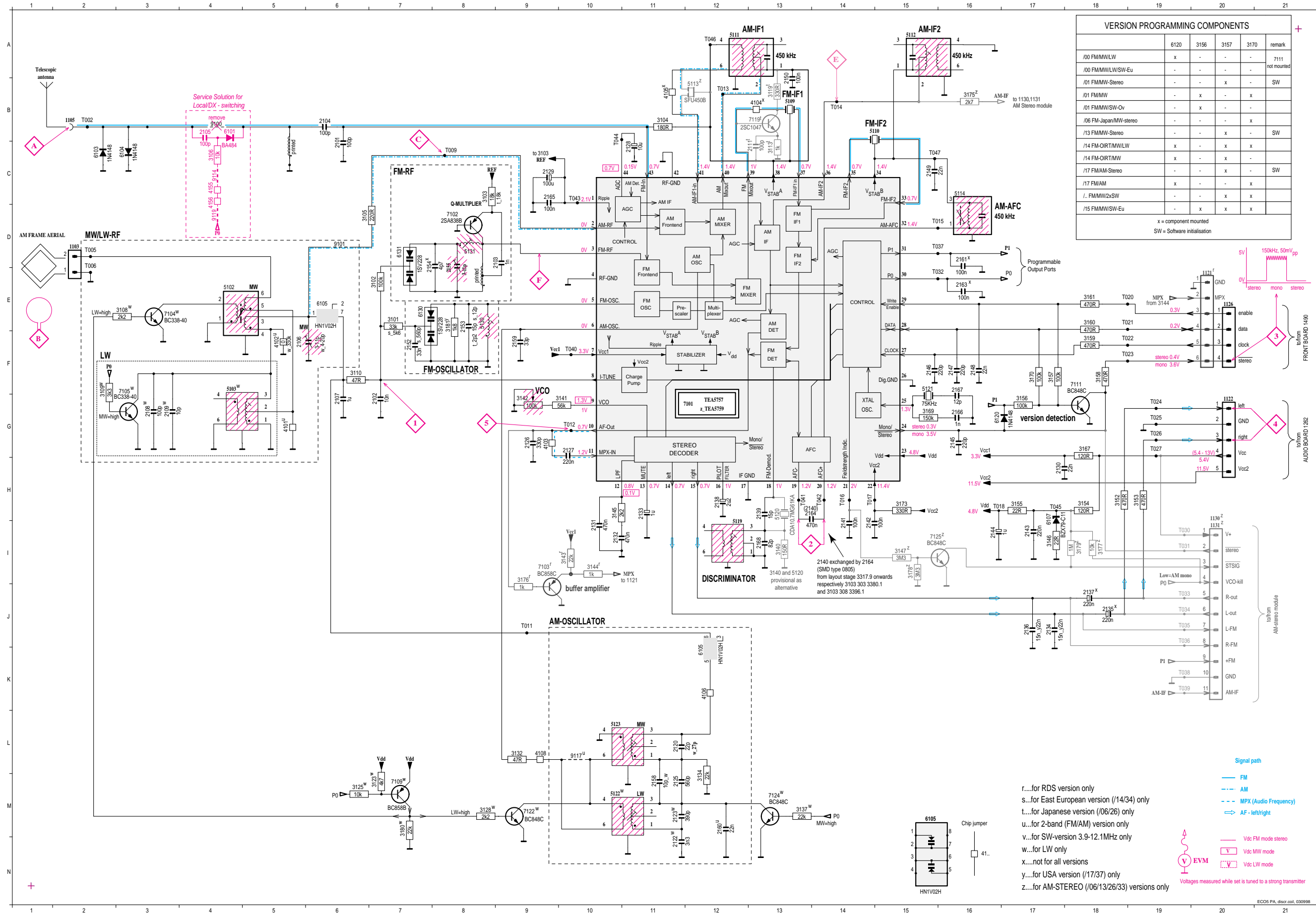
7-2



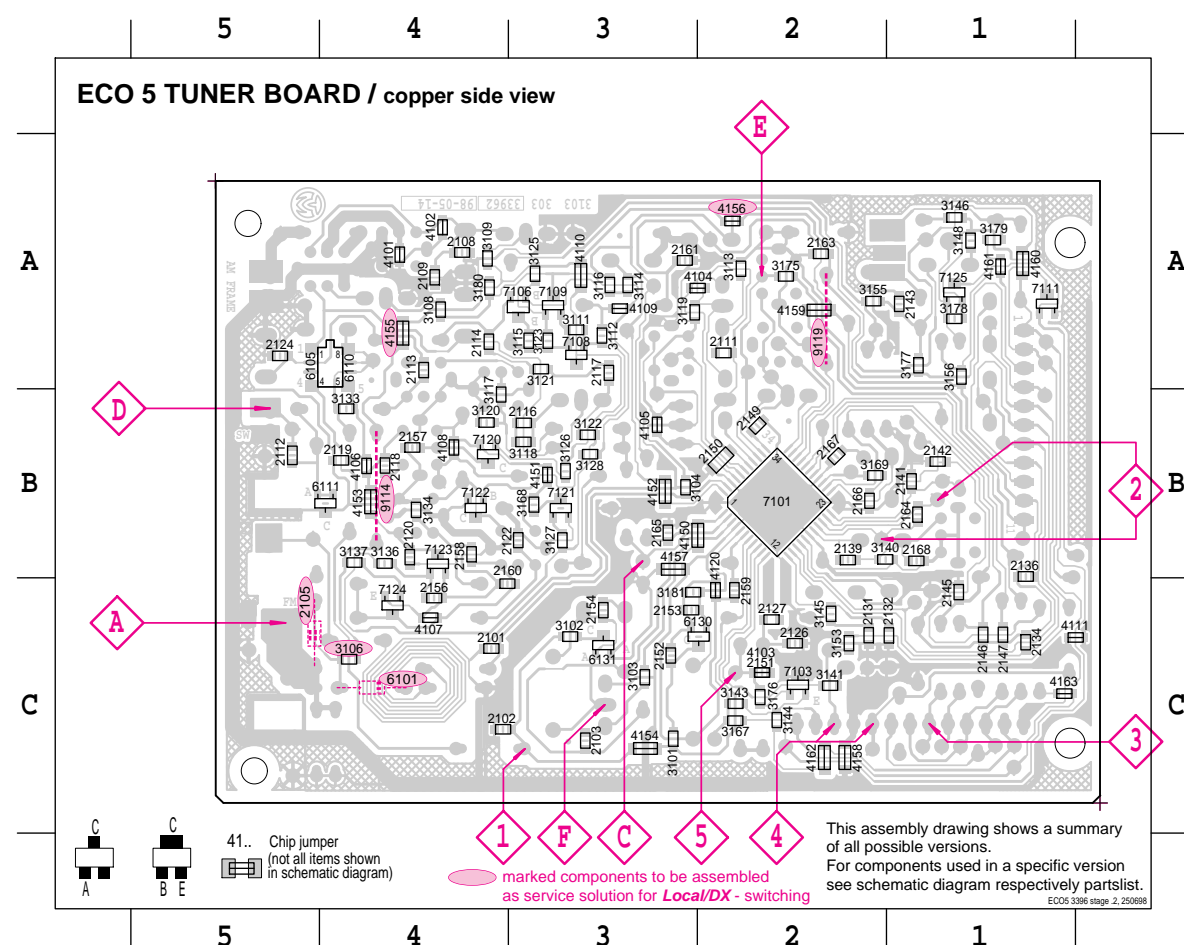
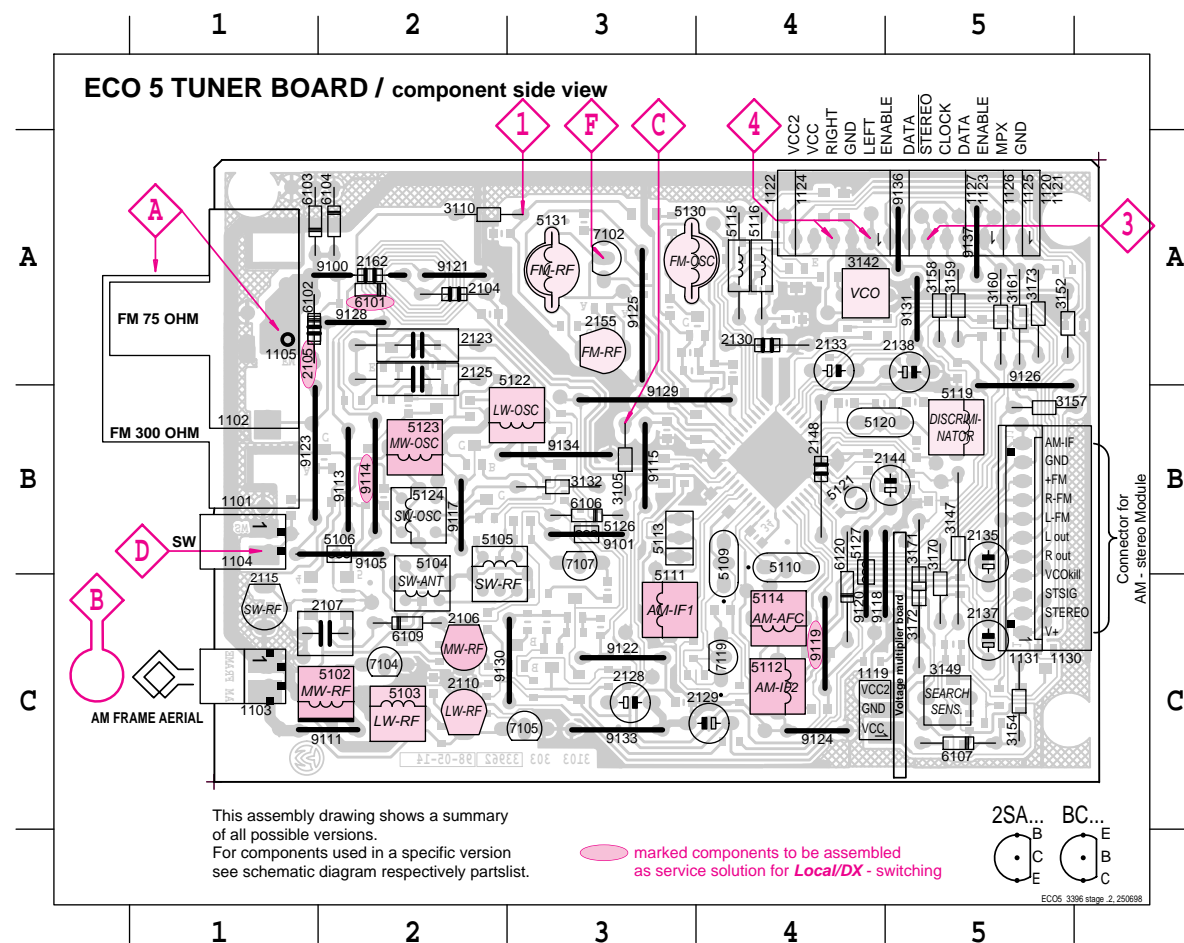
TUNER BOARD ECO5 - CIRCUIT DIAGRAM

8-1

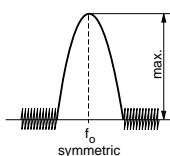
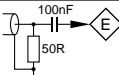
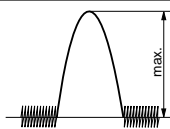

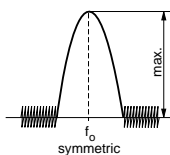
8-1



TUNER BOARD ECO5 - LAYOUT DIAGRAM



TUNER ADJUSTMENT TABLE (EC05 FM/MW- stereo versions with AM-frame aerial)

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter	
VARICAP ALIGNMENT							
FM 87.5 - 108MHz			108MHz	5130	<div>1</div>	8V ±0.2V	
			87.5MHz	check		4.3V ±0.5V	
FM Japan 76 - 90MHz plus Ch1 95.75MHz, Ch2 101.75MHz, Ch3 107.75MHz			107,75MHz	5130		8V ±0.2V	
			76MHz	check		2.4V ±0.5V	
MW FM/AM-version, 10kHz grid 530 - 1700kHz			1700kHz	5123		8V ±0.2V	
			530kHz	check		1.1V ±0.4V	
MW FM/MW-version, 9kHz grid 531 - 1602kHz			1602kHz	5123		6.9V ±0.2V	
			531kHz	check		1.1V ±0.4V	
FM IF							
FM	10.7MHz, 50mV continuous wave	<div>F</div>	<div>IC 7101 21 shortcircuit to block AFC</div> <div>2141</div>	5119	<div>2</div>	0 ± 3 mV DC	
FM RF							
FM 87.5 - 108MHz	108MHz	<div>A</div> mod=1kHz Δf=±22.5kHz	108MHz	2155	<div>5</div>	MAX	
	87.5MHz		87.5MHz	5131			
FM Japan 76 - 90MHz plus Ch1 95.75MHz, Ch2 101.75MHz, Ch3 107.75MHz	107.75MHz		107.75MHz	2155			
	76MHz		76MHz	5131			
VCO							
FM	98MHz, 1mV (83MHz for Japan) continuous wave	<div>A</div>	98MHz (83MHz for Japan)	3142	<div>3</div>	152kHz ±1kHz ¹⁾	
AM IF							
MW	450kHz connect pin 6 of IC 7101 (AM Osc.) with short wire to ground (pin 4)	<div>C</div> Δf=±15kHz V _{RF} = 3mV	<div>IC 7101 36</div> <div>100nF</div> <div>220R</div> <div>IC 7101 40</div> <div>100nF</div> <div>220R</div> <div>see remark 2)</div>	5111	<div>5</div>	<div></div>	
				5112			
AM AFC			<div>C</div> continuous wave V _{RF} = 10mV		5114	<div>2</div>	0 ± 2 mV DC
IF stereo module			<div></div> <div>Δf=±15kHz V_{RF} = 1mV</div>		5240	<div>4</div>	<div></div>
AM RF ³⁾							
MW FM/MW-version, 9kHz grid 531 - 1602kHz	1494kHz	<div>B</div> <div></div> <div>Δf = ±30kHz V_{RF} as low as possible</div>	1494kHz	2106	<div>4</div>	<div></div>	
	558kHz		558kHz	5102			
MW FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz		1500kHz	2106			
	560kHz		560kHz	5102			

Use service test program. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

- 1) If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)
- 2) RC network serves for damping the IF-filter while adjusting the other one.

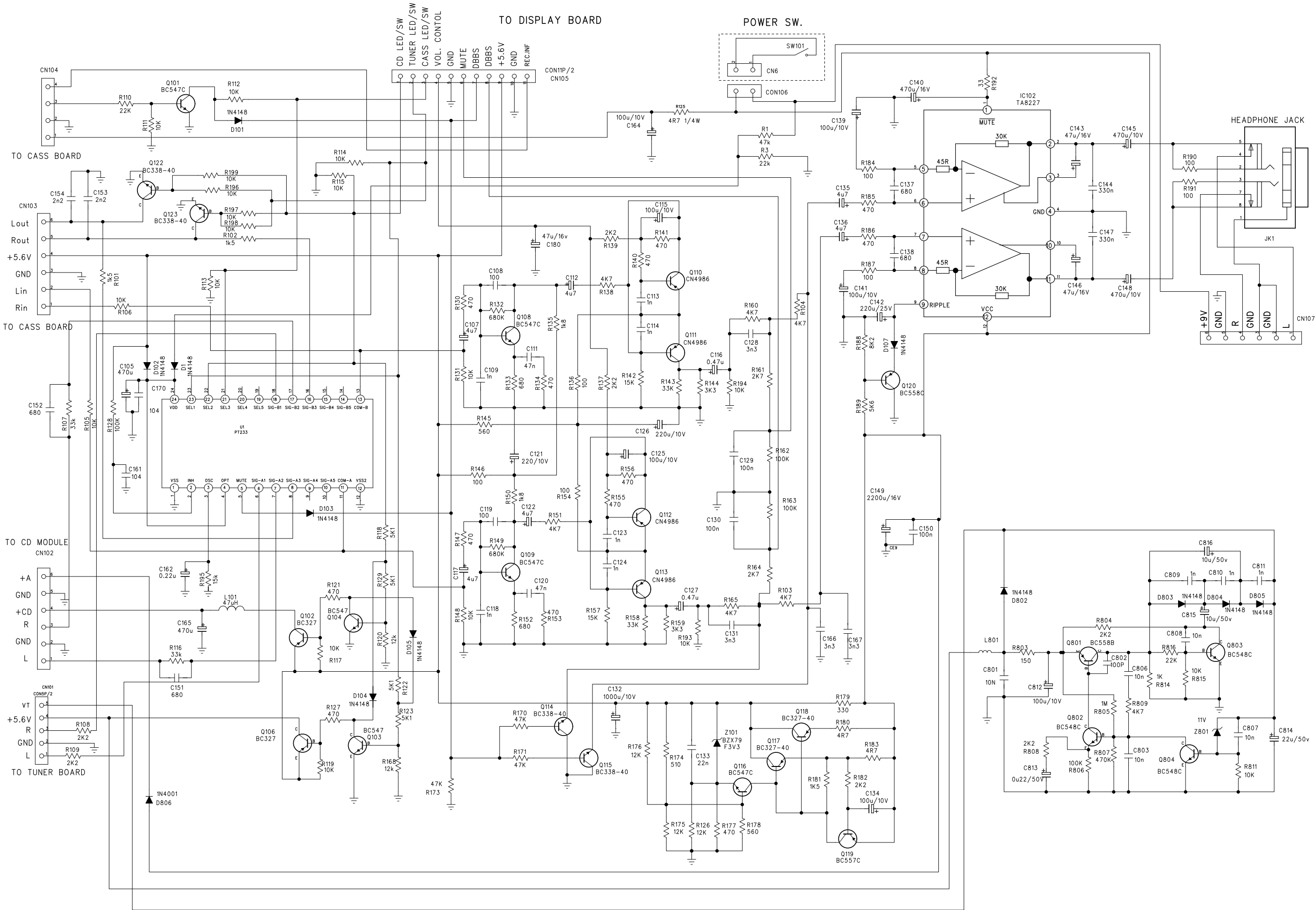
3) For AM RF adjustments the original frame antenna has to be used !

Repeat

MAIN BOARD - CIRCUIT DIAGRAM

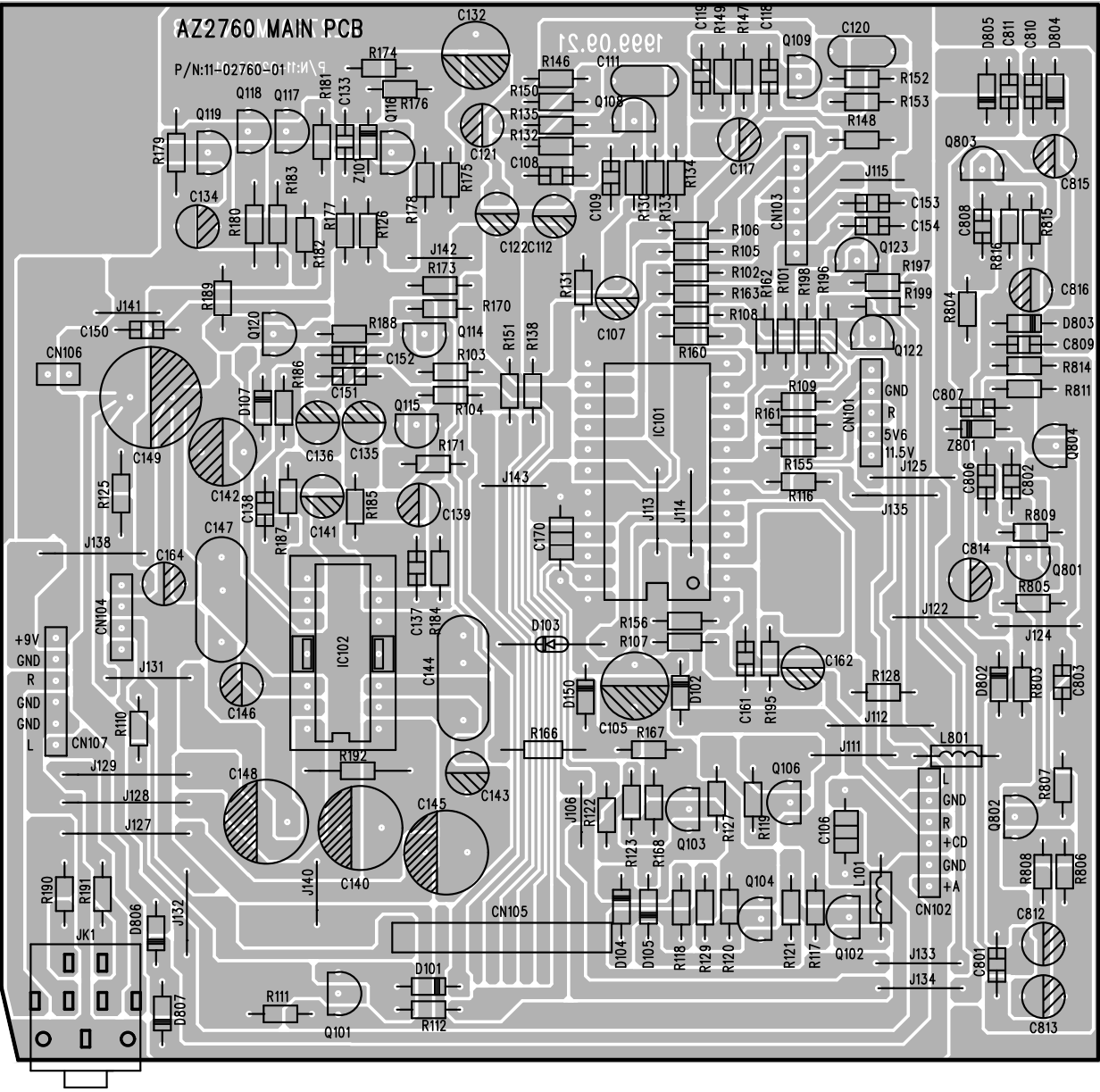
9-1

9-1



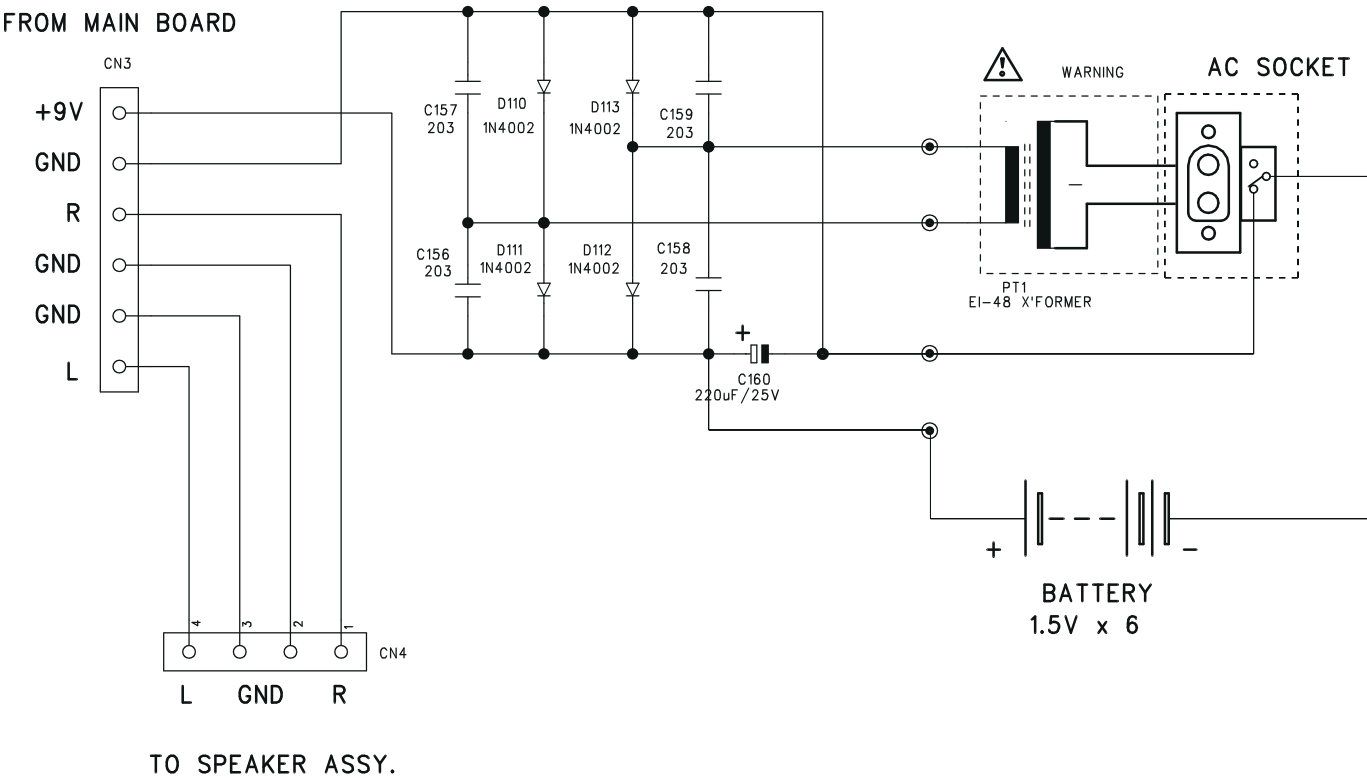
MAIN BOARD - LAYOUT DIAGRAM

9-2

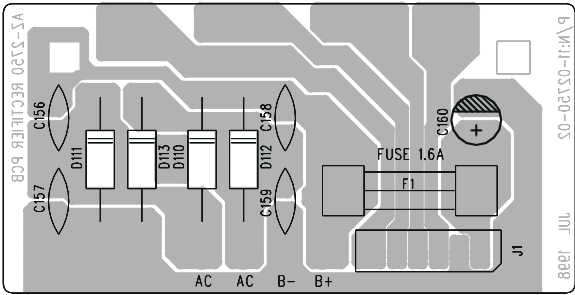


RECTIFIER BOARD - CIRCUIT DIAGRAM

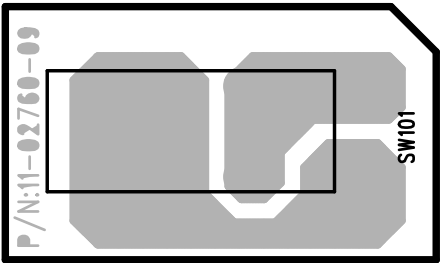
9-2



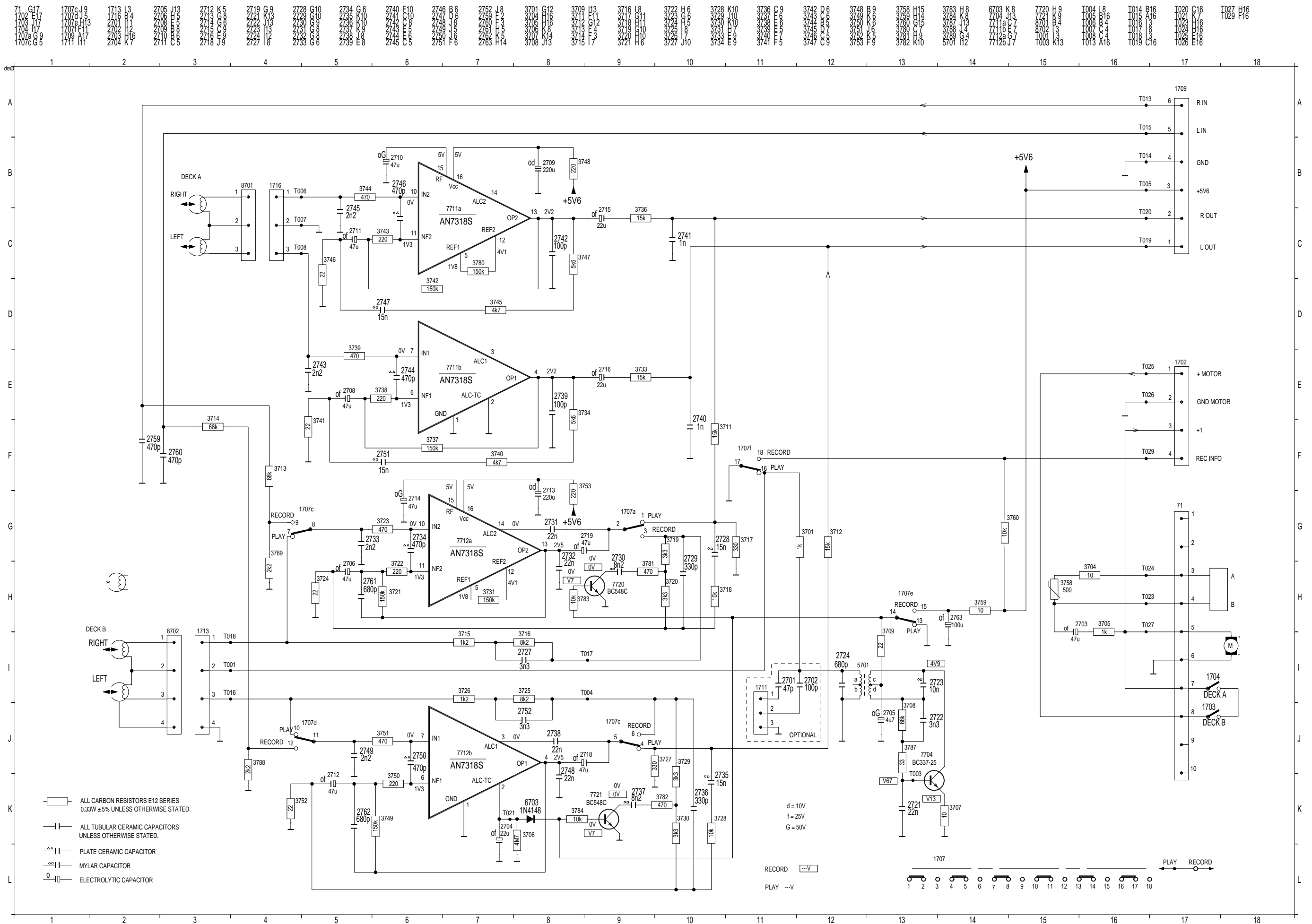
RECTIFIER BOARD - LAYOUT DIAGRAM



POWER SWITCH BOARD - LAYOUT DIAGRAM



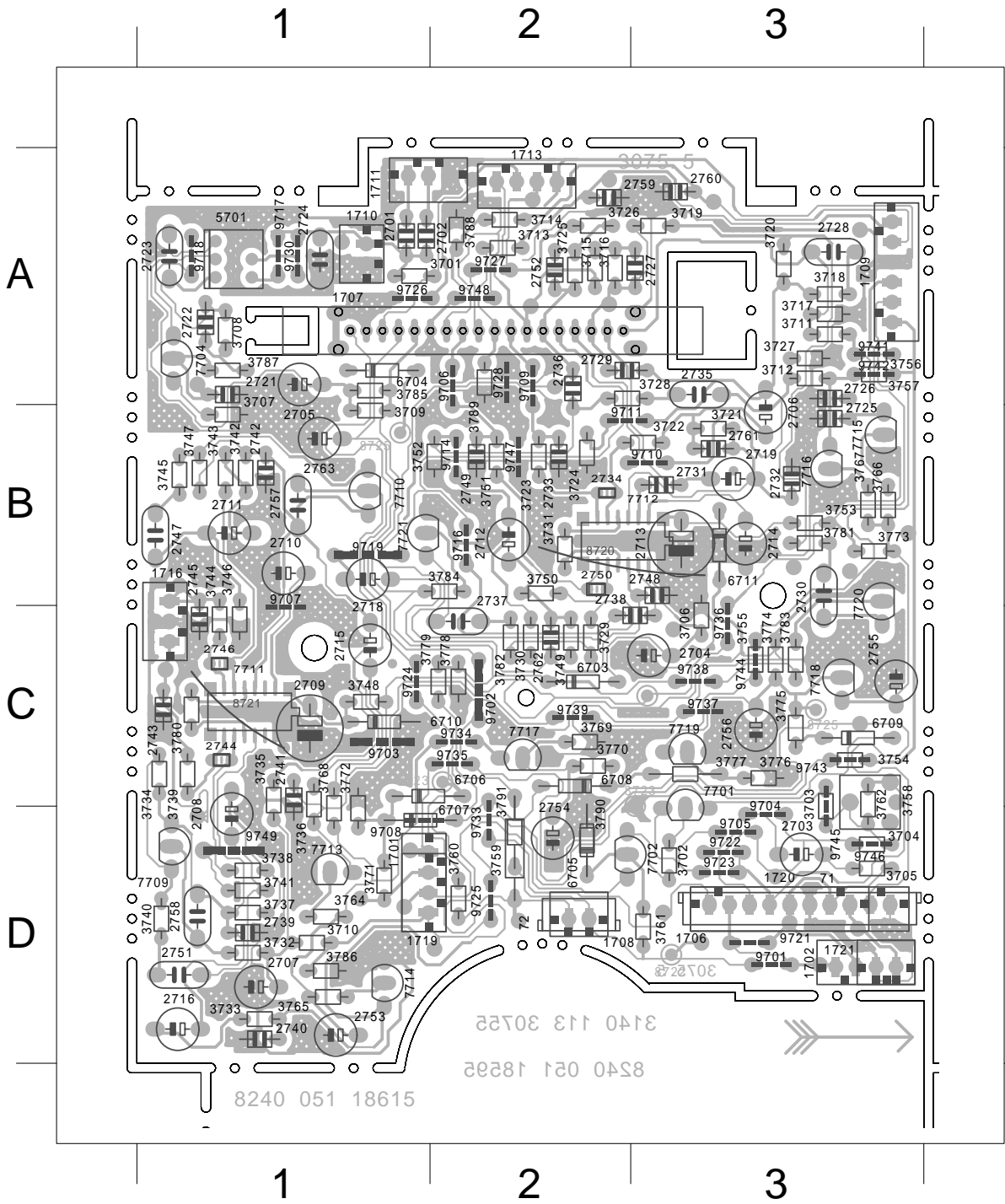
PCS 99 248



RECORDER BOARD - LAYOUT DIAGRAM

10-2

10-2



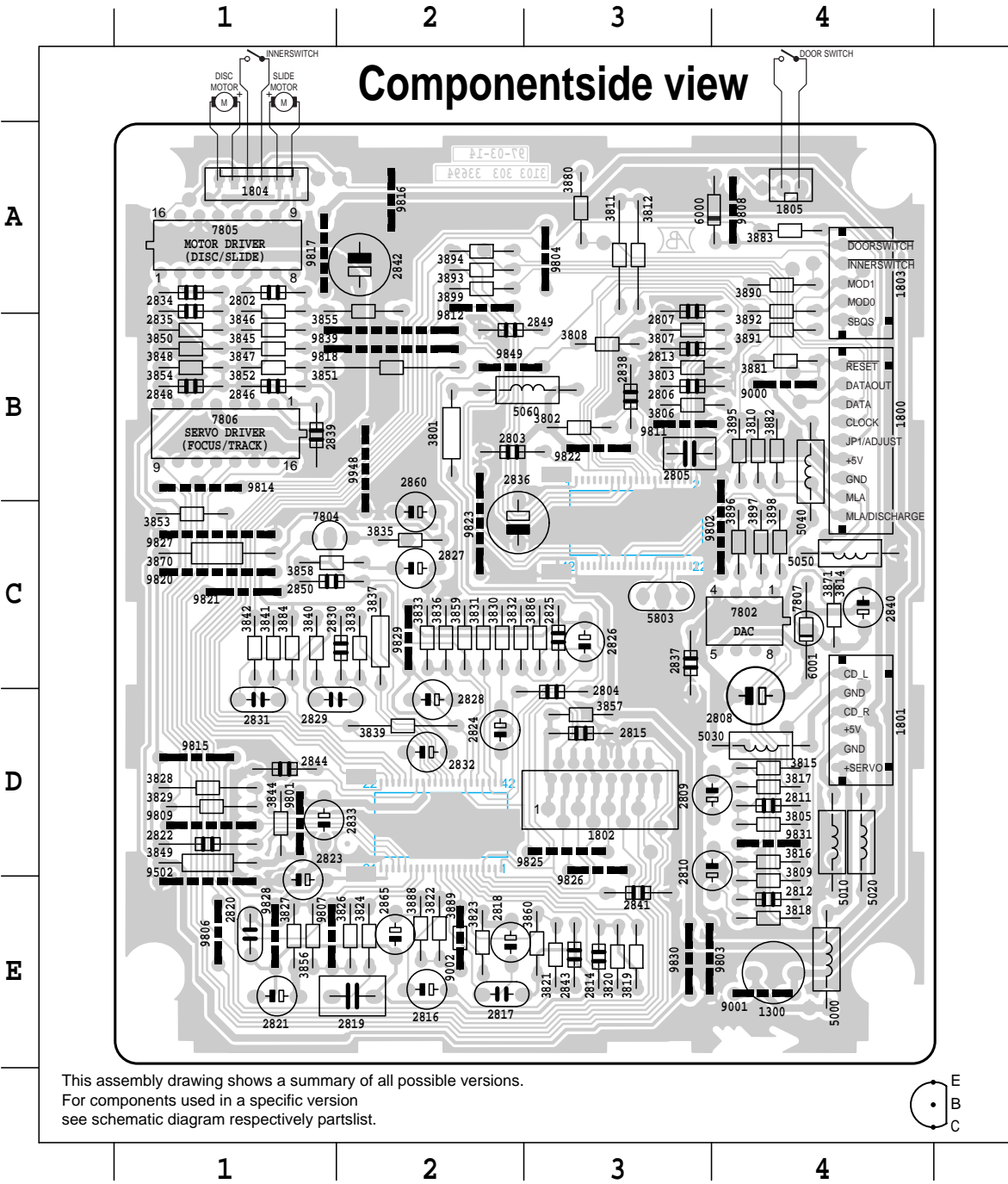
71 D 3	2744 C 1	3737 D 1	6704 A 1	9741 A 3
72 D 2	2745 C 1	3738 D 1	6705 D 2	9742 A 3
1701 D 1	2746 C 1	3739 C 1	6706 C 1	9743 C 3
1702 D 3	2747 B 1	3740 D 1	6707 D 1	9744 C 3
1706 D 3	2748 B 3	3741 D 1	6708 C 2	9745 D 3
1707 A 2	2749 B 2	3742 B 1	6709 C 3	9746 D 3
1708 D 2	2750 B 2	3743 B 1	6710 C 1	9747 B 2
1709 A 3	2751 D 1	3744 C 1	6711 B 3	9748 A 2
1710 A 1	2752 A 2	3745 B 1	7701 D 3	9749 D 1
1711 A 1	2753 D 1	3746 C 1	7702 D 2	
1713 A 2	2754 D 2	3747 B 1	7704 A 1	
1716 C 1	2755 C 3	3748 C 1	7709 D 1	
1719 D 1	2756 C 3	3749 C 2	7710 B 1	
1720 D 3	2757 B 1	3750 B 2	7711 C 1	
1721 D 3	2758 D 1	3751 B 2	7712 B 2	
2701 A 1	2759 A 2	3752 B 2	7713 D 1	
2702 A 1	2760 A 3	3753 B 3	7714 D 1	
2703 D 3	2761 B 3	3754 C 3	7715 B 3	
2704 C 3	2762 C 2	3755 C 3	7716 B 3	
2705 A 1	2763 B 1	3756 A 3	7717 C 2	
2706 B 3	3701 A 1	3757 A 3	7718 C 3	
2707 D 1	3702 D 3	3758 C 3	7719 C 3	
2708 D 1	3703 D 3	3759 D 2	7720 B 3	
2709 C 1	3704 D 3	3760 D 2	7721 B 1	
2710 B 1	3705 D 3	3761 D 3	9701 D 3	
2711 B 1	3706 C 3	3762 C 3	9702 C 2	
2712 B 2	3707 B 1	3764 D 1	9703 C 1	
2713 B 3	3708 A 1	3765 D 1	9704 D 3	
2714 B 3	3709 B 1	3766 B 3	9705 D 3	
2715 C 1	3710 D 1	3767 B 3	9706 A 2	
2716 D 1	3711 A 3	3768 D 1	9707 C 1	
2718 B 1	3712 A 3	3769 C 2	9708 D 1	
2719 B 3	3713 A 2	3770 C 2	9709 A 2	
2721 A 1	3714 A 2	3771 D 1	9710 B 3	
2722 A 1	3715 A 2	3772 D 1	9711 B 2	
2723 A 1	3716 A 2	3773 B 3	9714 B 2	
2724 A 1	3717 A 3	3774 C 3	9716 B 2	
2725 B 3	3718 A 3	3775 C 3	9717 A 1	
2726 A 3	3719 A 3	3776 C 3	9718 A 1	
2727 A 3	3720 A 3	3777 C 3	9719 B 1	
2728 A 3	3721 B 3	3778 C 2	9721 D 3	
2729 A 2	3722 B 3	3779 C 2	9722 D 3	
2730 B 3	3723 B 2	3780 C 1	9723 D 3	
2731 B 3	3724 B 2	3781 B 3	9724 C 1	
2732 B 3	3725 A 2	3782 C 2	9725 D 2	
2733 B 2	3726 A 2	3783 C 3	9726 A 1	
2734 B 2	3727 A 3	3784 B 2	9727 A 2	
2735 A 3	3728 A 2	3785 A 1	9728 A 2	
2736 A 2	3729 C 2	3786 D 1	9730 A 1	
2737 C 2	3730 C 2	3787 A 1	9733 D 2	
2738 C 3	3731 B 2	3788 A 2	9734 C 2	
2739 D 1	3732 D 1	3789 A 2	9735 C 2	
2740 D 1	3733 D 1	3790 D 2	9736 C 3	
2741 C 1	3734 C 1	3791 D 2	9737 C 3	
2742 B 1	3735 C 1	5701 A 1	9738 C 3	
2743 C 1	3736 C 1	6703 C 2	9739 C 2	

CASSETTE ADJUSTMENT

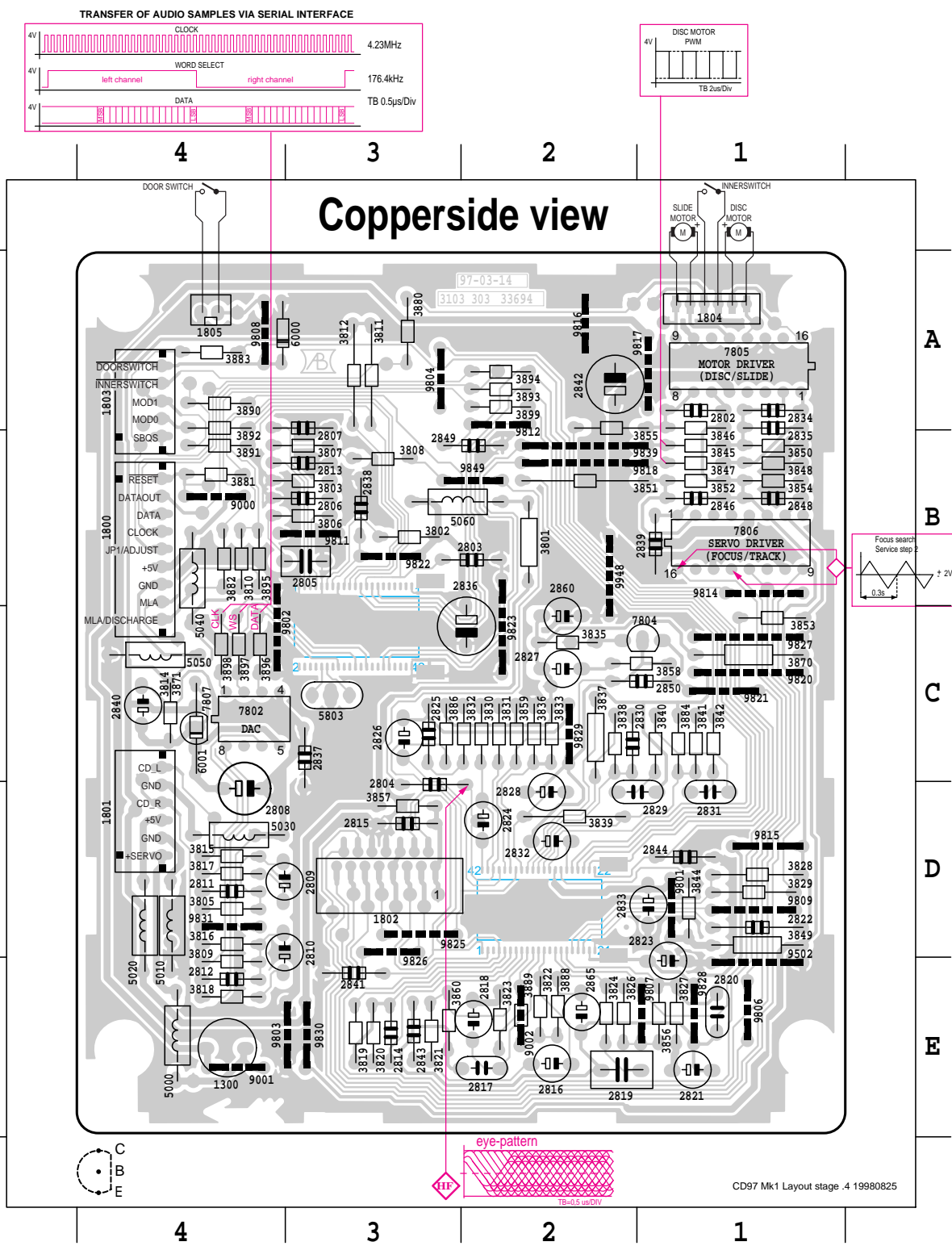
Adjustment	Cassette	SK	Deck 1	Deck 2	Measure on	Read on	Adjust with	Adjust to
Azimuth	10kHz SBC420*	Tape	Play	--	H/P Jack 3758	mV meter	Left screw of P. Head on Deck 1	max. output
Azimuth	10kHz SBC420*	Tape	--	Play	H/P Jack 3758	mV meter	Left screw of P. Head on Deck 2	L=R
Motor Speed	3150kHz SBC420*	Tape	Play	--	H/P Jack 3758	Wow and flutter meter	3758	**a

* SBC420 : 4822 397 30071

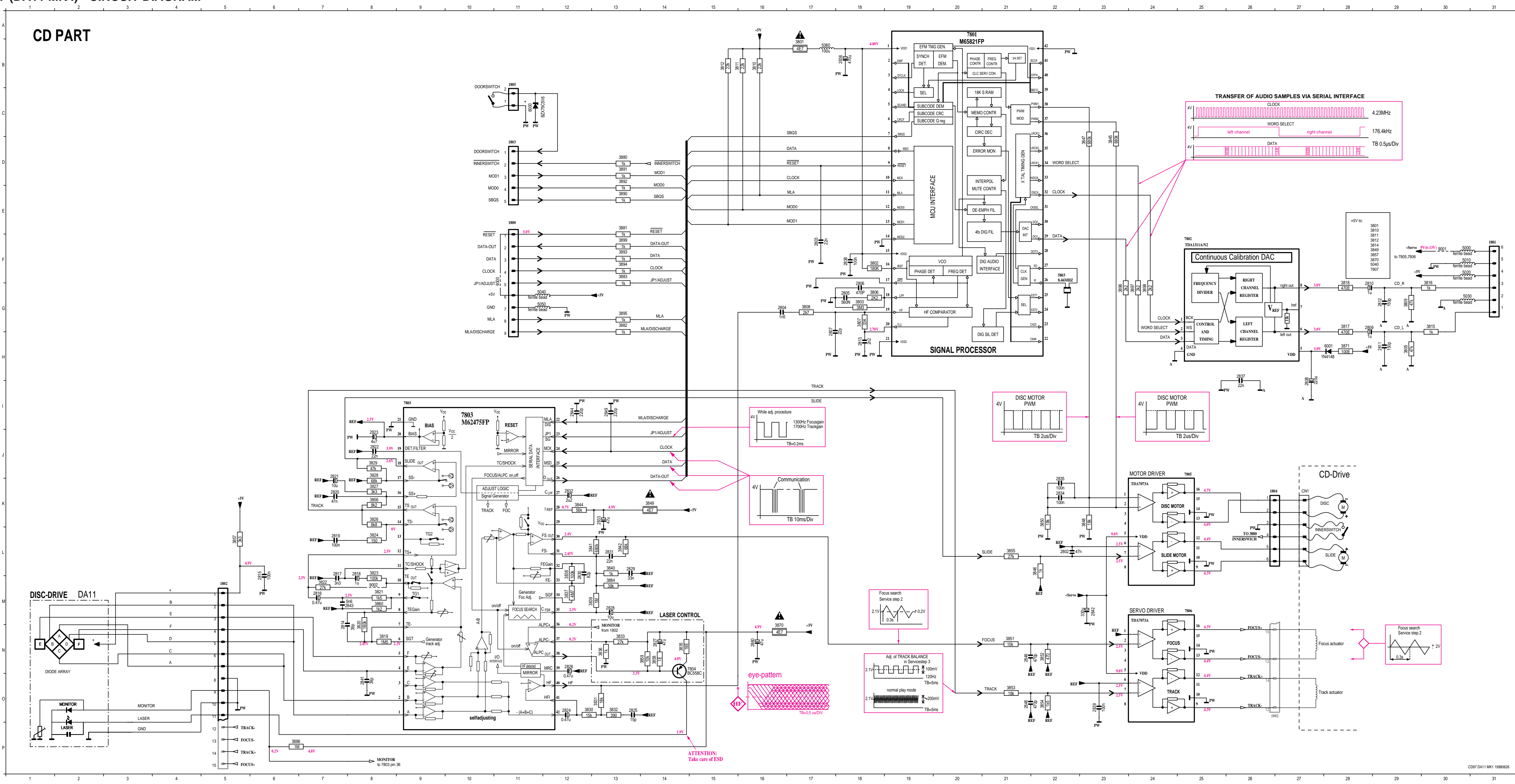
**a The maximum permissible speed deviation is $\pm 3\%$.
Moreover, the wow and flutter value can be read.
This value should not exceed 0.3%.



1300	E 4	3807	B 3	3891	B 4
1800	B 4	3808	B 3	3892	A 4
1801	D 4	3809	E 4	3893	A 2
1802	D 3	3810	B 4	3894	A 2
1803	A 4	3811	A 3	3895	B 4
1804	A 1	3812	A 3	3896	C 4
1805	A 4	3814	C 4	3897	C 4
2802	A 1	3815	D 4	3898	C 4
2803	B 2	3816	D 4	3899	A 2
2804	D 3	3817	D 4	5000	E 4
2805	B 3	3818	E 4	5010	D 4
2806	B 3	3819	E 3	5020	D 4
2807	A 3	3820	E 3	5030	D 4
2808	D 4	3821	E 3	5040	B 4
2809	D 4	3822	E 2	5050	C 4
2810	D 4	3823	E 2	5060	B 3
2811	D 4	3824	E 2	5803	C 3
2812	E 4	3826	E 2	6000	A 4
2813	B 3	3827	E 1	6001	C 4
2814	E 3	3828	D 1	7802	C 4
2815	D 3	3829	D 1	7804	C 1
2816	E 2	3830	C 2	7805	A 1
2817	E 2	3831	C 2	7806	B 1
2818	E 2	3832	C 2	7807	C 4
2819	E 2	3833	C 2	9000	B 4
2820	E 1	3835	C 2	9001	E 4
2821	E 1	3836	C 2	9002	E 2
2822	D 1	3837	C 2	9502	E 1
2823	E 1	3838	C 2	9801	D 1
2824	D 2	3839	D 2	9802	C 4
2825	C 3	3840	C 1	9803	E 3
2826	C 3	3841	C 1	9804	A 3
2827	C 2	3842	C 1	9806	E 1
2828	D 2	3844	D 1	9807	E 1
2829	D 1	3845	B 1	9808	A 4
2830	C 2	3846	A 1	9809	D 1
2831	D 1	3847	B 1	9811	B 3
2832	D 2	3848	B 1	9812	A 2
2833	D 1	3849	D 1	9814	B 1
2834	A 1	3850	B 1	9815	D 1
2835	A 1	3851	B 2	9816	A 2
2836	C 2	3852	B 1	9817	A 1
2837	C 3	3853	C 1	9818	B 2
2838	B 3	3854	B 1	9820	C 1
2839	B 1	3855	A 2	9821	C 1
2840	C 4	3856	E 1	9822	B 3
2841	E 3	3857	D 3	9823	C 2
2842	A 2	3858	C 1	9825	D 3
2843	E 3	3859	C 2	9826	D 3
2844	D 1	3860	E 3	9827	C 1
2846	B 1	3870	C 1	9828	E 1
2848	B 1	3871	C 4	9829	C 2
2849	B 2	3880	A 3	9830	E 3
2850	C 1	3881	B 4	9831	D 4
2860	C 2	3882	B 4	9839	B 2
2865	E 2	3883	A 4	9849	B 2
2801	B 2	3884	C 1	9948	B 2
3802	B 3	3886	C 3	7801	C 3
3803	B 3	3888	E 2	7803	D 2
3805	D 4	3889	E 2		
3806	B 3	3890	A 4		



CD PART



ATTENTION:
Take care of ESI

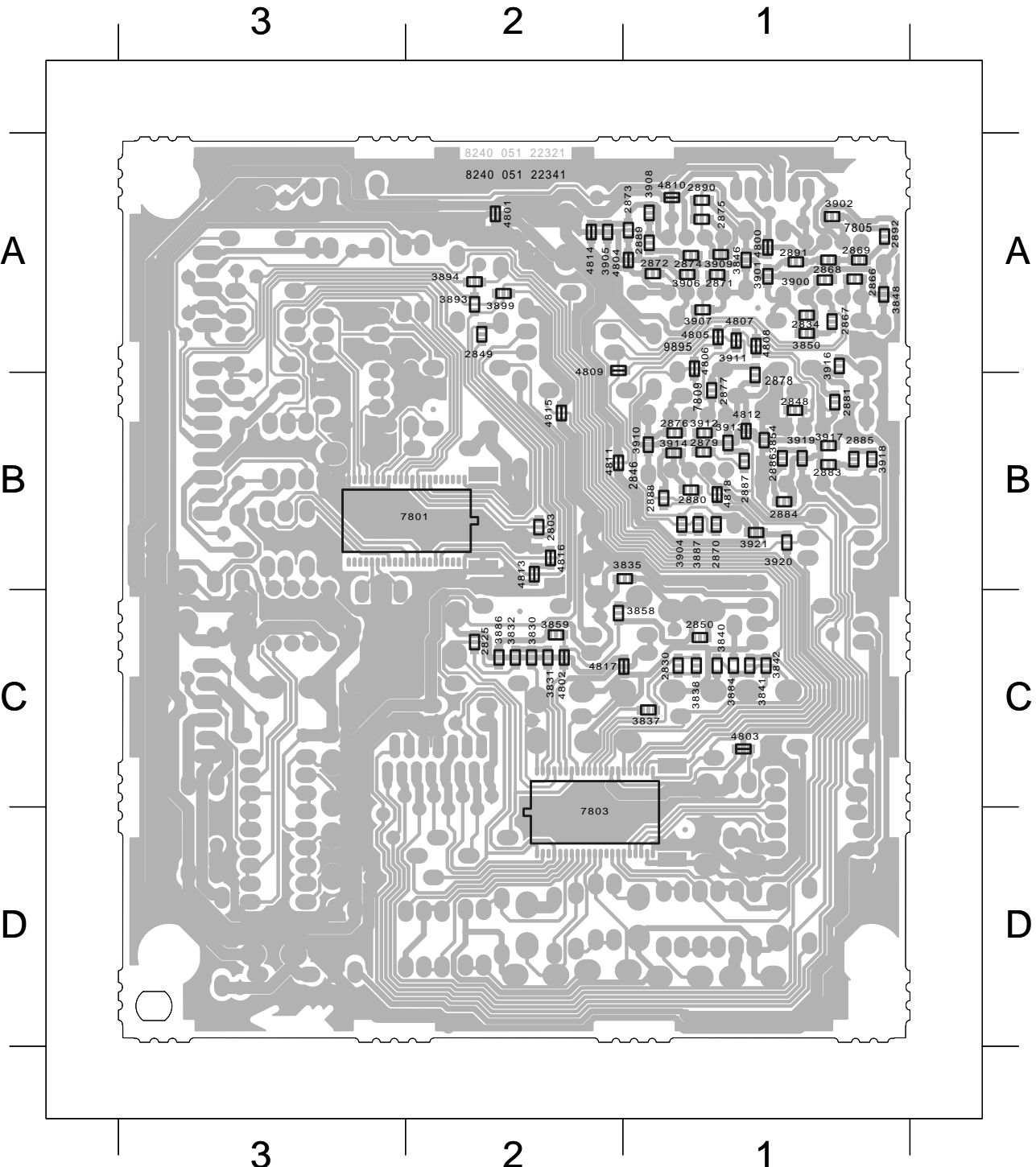
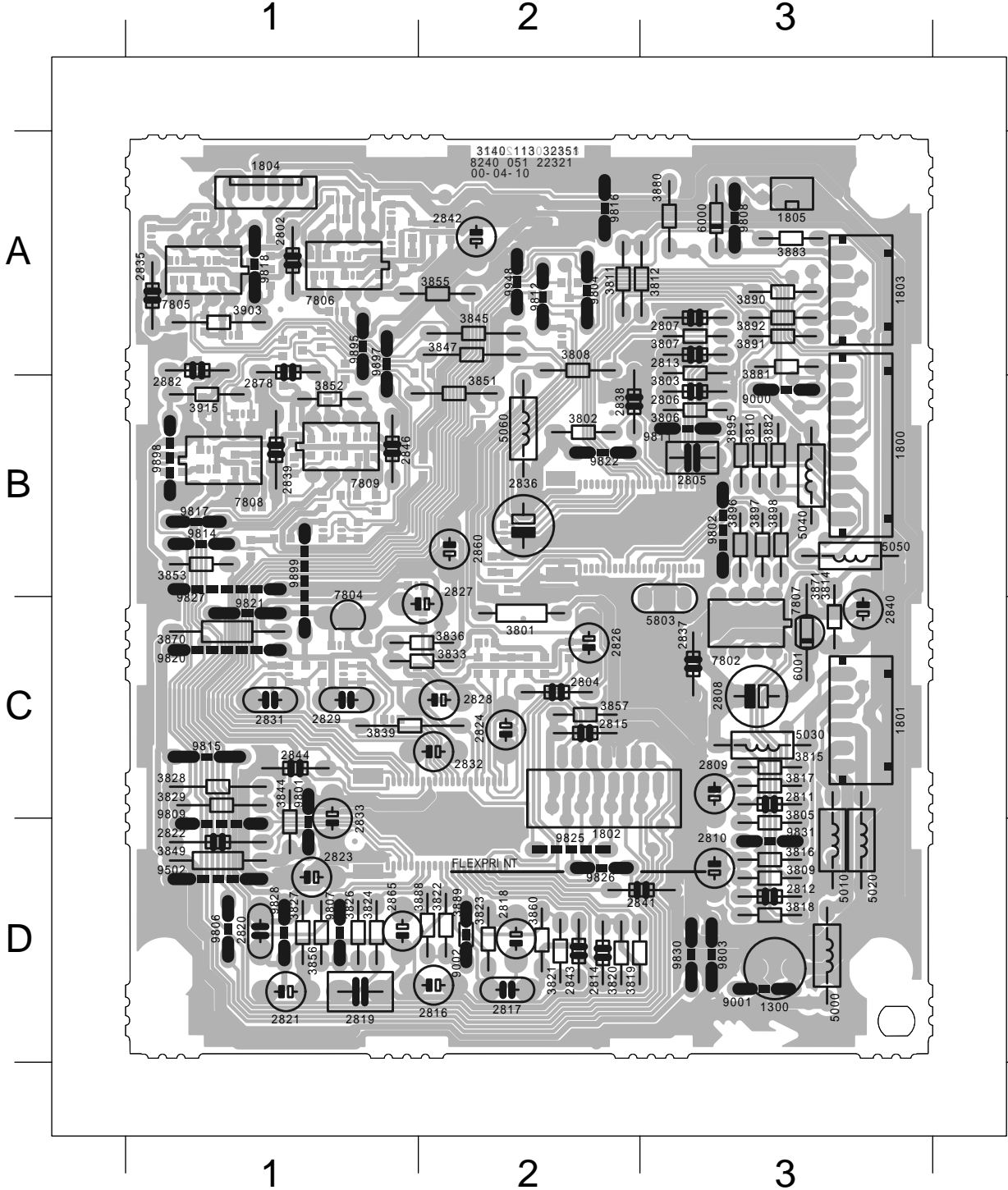
CD97 DA11 MK1 19980621

PCS 99 279



1300 D 3	2814 D 2	2835 A 1	3805 D 3	3824 D 1	3860 D 2	5000 D 3	9001 D 3	9820 C 1
1800 B 3	2815 C 2	2836 B 2	3806 B 3	3826 D 1	3870 C 1	5010 D 3	9002 D 2	9821 C 1
1801 C 3	2816 D 2	2837 C 3	3807 A 3	3827 D 1	3871 C 3	5020 D 3	9502 D 1	9822 B 2
1802 C 2	2817 D 2	2838 B 2	3808 A 2	3828 C 1	3880 A 3	5030 C 3	9801 D 1	9825 D 2
1803 A 3	2818 D 2	2839 B 1	3809 D 3	3829 C 1	3881 A 3	5040 B 3	9802 B 3	9826 D 2
1804 A 1	2819 D 1	2840 C 3	3810 B 3	3833 C 2	3882 B 3	5050 B 3	9803 D 3	9827 B 1
1805 A 3	2820 D 1	2841 D 3	3811 A 2	3836 C 2	3883 A 3	5060 B 2	9804 A 2	9828 D 1
2802 A 1	2821 D 1	2842 A 2	3812 A 3	3839 C 1	3888 D 2	5803 C 3	9806 D 1	9830 D 3
2804 C 2	2822 D 1	2843 D 2	3814 C 3	3844 D 1	3889 D 2	6000 A 3	9807 D 1	9831 D 3
2805 B 3	2823 D 1	2844 C 1	3815 C 3	3845 A 2	3890 A 3	6001 C 3	9808 A 3	9895 A 1
2806 B 3	2824 C 2	2846 B 1	3816 D 3	3847 A 2	3891 A 3	7802 C 3	9809 D 1	9897 A 1
2807 A 3	2826 C 2	2860 B 2	3817 C 3	3849 D 1	3892 A 3	7804 C 1	9811 B 3	9898 B 1
2808 C 3	2827 C 2	2865 D 1	3818 D 3	3851 B 2	3895 B 3	7805 A 1	9812 A 2	9899 B 1
2809 C 3	2828 C 2	2878 A 1	3819 D 2	3852 B 1	3896 B 3	7806 A 1	9814 B 1	9948 A 2
2810 D 3	2829 C 1	2882 A 1	3820 D 2	3853 B 1	3897 B 3	7807 C 3	9815 C 1	
2811 C 3	2831 C 1	3801 C 2	3821 D 2	3855 A 2	3898 B 3	7808 B 1	9816 A 2	
2812 D 3	2832 C 2	3802 B 2	3822 D 2	3856 D 1	3903 A 1	7809 B 1	9817 B 1	
2813 A 3	2833 D 1	3803 A 3	3823 D 2	3857 C 2	3915 B 1	9000 B 3	9818 A 1	

2803 B 2	2873 A 1	2889 A 1	3848 A 1	3904 B 1	3919 B 1	4811 B 2
2825 C 2	2874 A 1	2890 A 1	3850 A 1	3905 A 2	3920 B 1	4812 B 1
2830 C 1	2875 A 1	2891 A 1	3854 B 1	3906 A 1	3921 B 1	4813 B 2
2834 A 1	2876 B 1	2892 A 1	3858 C 2	3907 A 1	4800 A 1	4814 A 2
2848 B 1	2877 B 1	3830 C 2	3859 C 2	3908 A 1	4801 A 2	4815 B 2
2849 A 2	2879 B 1	3831 C 2	3884 C 1	3909 A 1	4802 C 2	4816 B 2
2850 C 1	2880 B 1	3832 C 2	3886 C 2	3910 B 1	4803 C 1	4817 C 1
2866 A 1	2881 B 1	3835 B 1	3887 B 1	3911 B 1	4804 A 1	4818 B 1
2867 A 1	2883 B 1	3837 C 1	3893 A 2	3912 B 1	4805 A 1	7801 B 2
2868 A 1	2884 B 1	3838 C 1	3894 A 2	3913 B 1	4806 A 1	7803 D 2
2869 A 1	2885 B 1	3840 C 1	3899 A 2	3914 B 1	4807 A 1	
2870 B 1	2886 B 1	3841 C 1	3900 A 1	3916 A 1	4808 A 1	
2871 A 1	2887 B 1	3842 C 1	3901 A 1	3917 B 1	4809 A 2	
2872 A 1	2888 B 1	3846 A 1	3902 A 1	3918 B 1	4810 A 1	



Servo IC are changed from
TDA7073A to TCA0372DP1.

EXPLODED VIEW DIAGRAM - CABINET

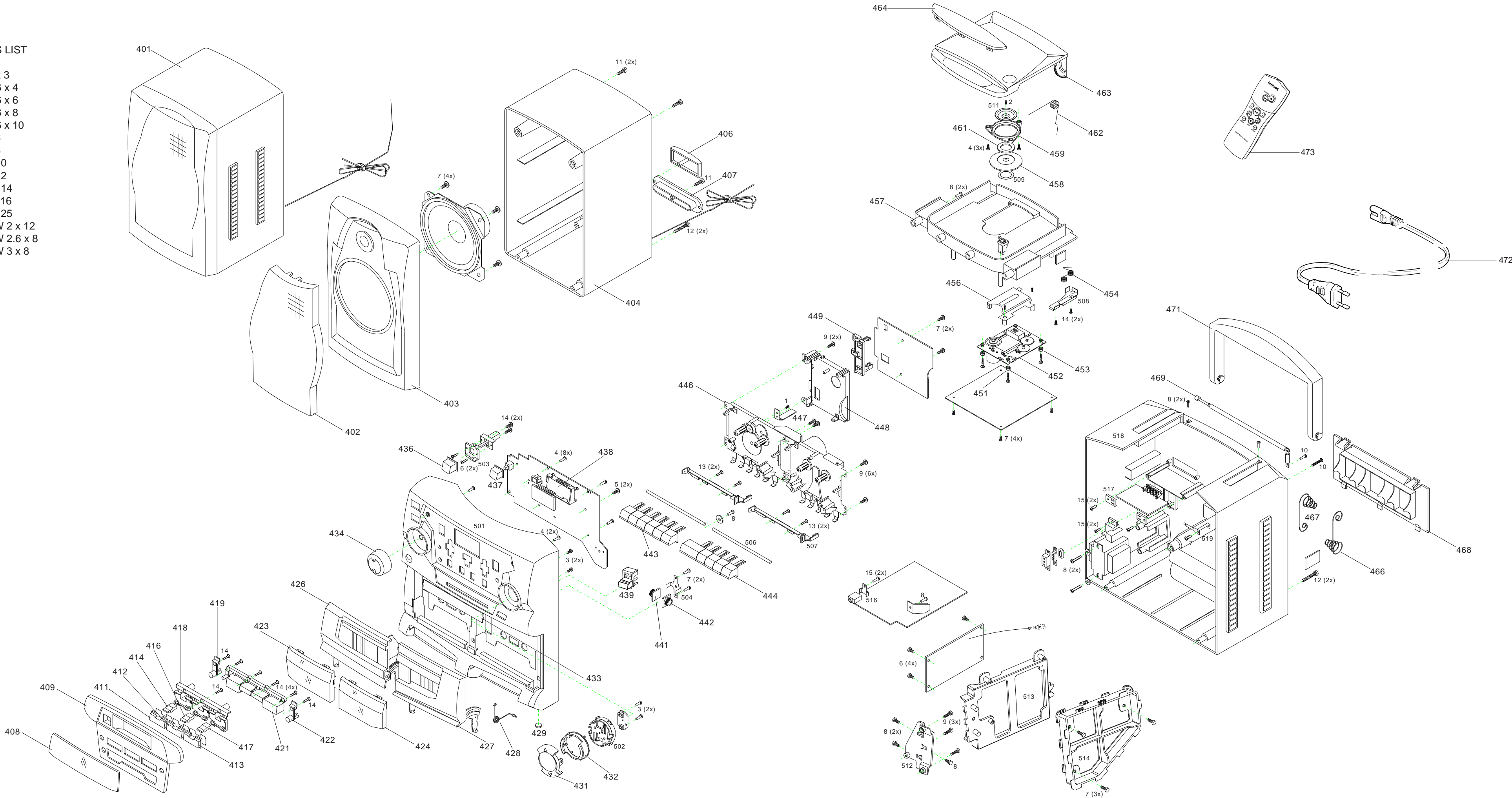
12-1

12-1

12-1

SCREWS LIST

- 1. C M2 x 3
- 2. C M2.6 x 4
- 3. C M2.6 x 6
- 4. C M2.6 x 8
- 5. C M2.6 x 10
- 6. C 3 x 6
- 7. C 3 x 8
- 8. C 3 x 10
- 9. C 3 x 12
- 10. C 3 x 14
- 11. C 3 x 16
- 12. C 3 x 25
- 13. C P/W 2 x 12
- 14. C P/W 2.6 x 8
- 15. C P/W 3 x 8



MECHANICAL PARTSLIST- CABINET

401	9965 000 08780	SPEAKER REAR CAB (L)	446	9965 000 08786	TAPE DECK CDS83WPB-05
402	9965 000 08779	SPEAKER GRILL	447	4822 492 11061	SPRING RECORDING
403	9965 000 08782	SPEAKER FRONT CAB	448	9965 000 08764	RECORDING CASS BRACKET
404	9965 000 08781	SPEAKER REAR CAB (R)	449	4822 402 11306	LEVER RECORDING
406	9965 000 08783	SPEAKER CABINET COVER	451	4822 529 10433	CD DAMPER (FRONT)
407	9965 000 08179	SPEAKER CORD WINDER	452	9965 000 08785	CD MECHANISM DA11N
408	9965 000 08762	DISPLAY LENS	453	4822 529 10432	CD DAMPER (REAR)
409	9965 000 08772	FACE COVER	454	4822 492 11748	ASSIST OPENING SPRING
411	4822 410 12426	FUNCTION SELECTOR (CD)	456	9965 000 08767	CD COVER
412	4822 410 12427	FUNCTION SELECTOR (TUNER)	457	9965 000 08144	CD TRAY
413	4822 410 12428	FUNCTION SELECTOR (TAPE)	458	9965 000 08769	STABILIZER
414	4822 380 10269	LED LIGHT GUIDE (CD)	459	9965 000 08145	DISC HOLDER BRACKET
416	4822 380 10271	LED LIGHT GUIDE (TUNER)	461	9965 000 02794	MAGNET
417	4822 380 10272	LED LIGHT GUIDE (TAPE)	462	9965 000 08778	CD DOOR SPRING
418	4822 402 11305	FUNCTION SELECTOR BRACKET	463	9965 000 08776	CD DOOR
419	9965 000 08148	SHUFFLE BUTTON	464	4822 450 10653	CD DOOR LENS
421	9965 000 08147	CD FUNCTION KNOB	466	4822 492 11749	BATTERY SPRING (-)
422	9965 000 08149	PROGRAM BUTTON	467	4822 492 11751	BATTERY SPRING (+,-)
423	9965 000 08759	CASS DOOR LENS (L)	468	9965 000 08771	BATTERY DOOR
424	9965 000 08760	CASS DOOR LENS (R)	469	4822 303 14091	ROD ANTENNA
426	9965 000 08774	CASS DOOR (L)	471	9965 000 08770	HANDLE
427	9965 000 08775	CASS DOOR (R)	472	4822 321 10249	MAINS CORD (FOR -/01/16)
428	4822 492 11746	CASS SPRING	472	4822 321 11466	MAINS CORD (FOR -/17)
429	4822 462 11182	RUBBER FOOT	473	3139 228 87580	REMOTE RC331402/01
431	9965 000 08161	TUNING KNOB (UP/DOWN)		9965 000 08768	REMOTE SENSOR HOLDER
432	9965 000 08146	TUNING KNOB ADAPTOR		9965 000 08777	FM ANTENNAWIRE
434	9965 000 08159	VOLUME KNOB (UP/DOWN)		9965 000 08784	INSTR MANUAL (FOR -/01/16)
436	4822 410 12429	POWER BUTTON		9965 000 08178	INSTR MANUAL (FOR -/17)
437	9965 000 08150	BASS BOOST BUTTON			
438	4822 402 11304	LCD BRACKET			
439	9965 000 08160	BAND KNOB			
441	9965 000 08773	DOOR GEAR HOLDER			
442	4822 522 10761	DOOR GEAR			
443	4822 410 12444	CASSETTE KEYS A (CASS A)			
444	4822 410 12445	CASSETTE KEYS B (CASS B)			

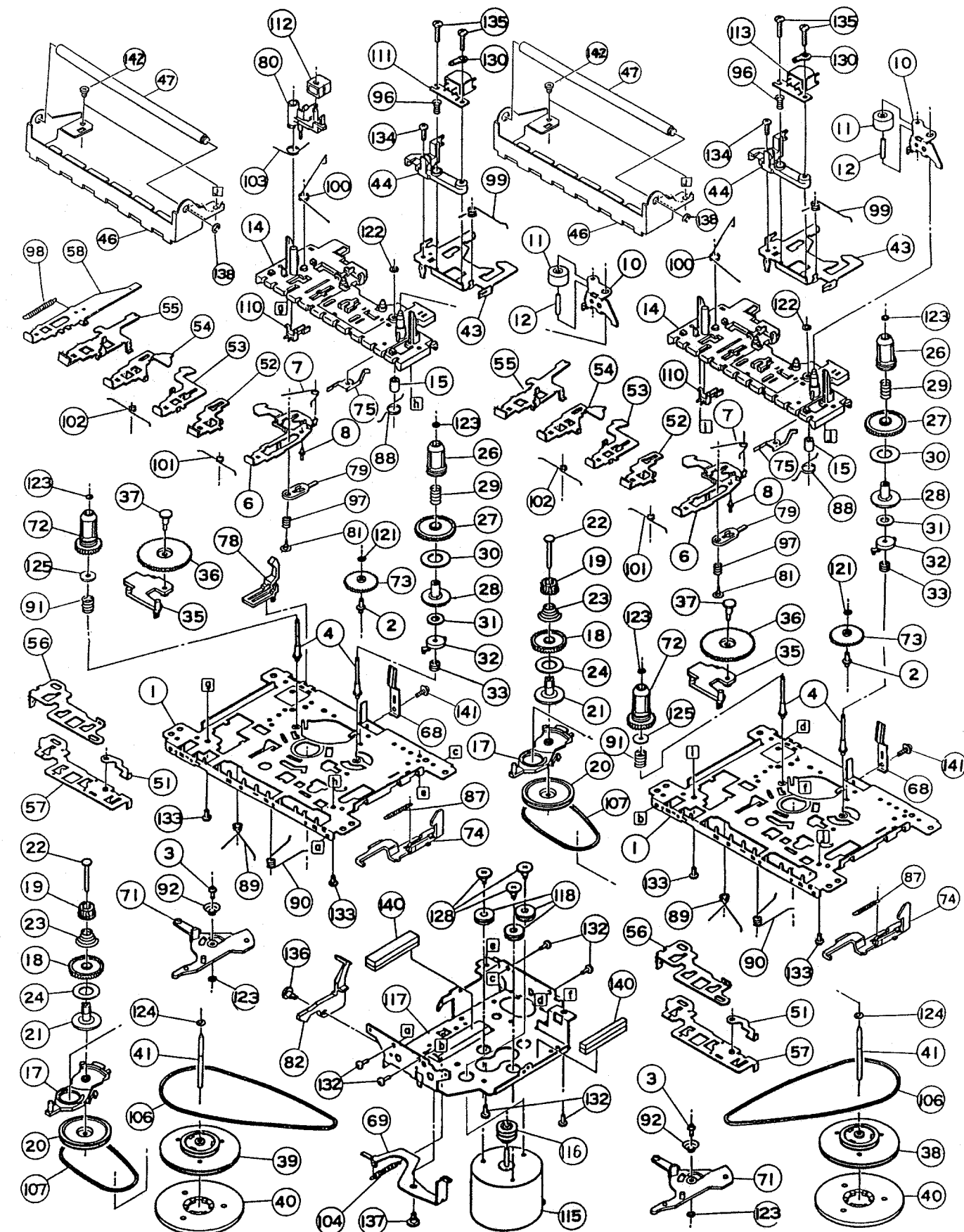
Note: Only these parts mentioned in the list are normal service parts.

MECHANICAL PARTSLIST - TAPE DECK

10	4822 528 70849	Pinch Roller Arm	111	4822 249 30218	R/P Head
11	4822 528 70695	Pinch Roller Assy	112	4822 249 40306	Erase Head
74	4822 403 30792	Eject Hook	113	4822 249 30218	R/P Head
106	4822 358 31125	Main Belt	115	4822 361 21592	Motor
107	4822 358 31124	Sub Belt	116	4822 528 91493	Motor Pulley
110	4822 278 90663	Leaf Switch		4822 691 10481	Tape Deck CDS-83WPB

Note: Only these parts mentioned in the list are normal service parts.

EXPLODED VIEW DIAGRAM - TAPE DECK



ELECTRICAL PARTSLIST - ECO5 TUNER BOARD

- CAPACITORS -

2101	5322 122 32531	100pF 5% NP0 50V
2102	4822 122 33177	10nF 20% X7R 50V
2103	5322 122 31647	1nF 10% X7R 63V
2104	4822 122 33195	100pF 10% 50V
2106	4822 125 60101	3pF-11pF N450 100V

2107	4822 121 51319	1µF 10% 63V
2120	5322 122 32658	22pF 5% 50V
2125	4822 121 10673	560pF 1% 630V
2126	5322 122 31863	330pF 5% NP0 63V
2127	4822 126 13473	220nF 80-20% 50V

2128	4822 124 40248	10µF 20% 63V
2129	4822 124 41584	100µF 20% 10V
2130	4822 126 11585	22nF +80-20% Y5V 25V
2131	4822 126 13482	470nF 80/20% 16V
2132	4822 126 13482	470nF 80/20% 16V

2133	4822 124 21913	1µF 20% 63V
2134	5322 122 32654	22nF 10% X7R 63V
2135	4822 124 40746	0,22µF 20% 63V
2136	5322 122 32654	22nF 10% X7R 63V
2137	4822 124 40746	0,22µF 20% 63V

2138	4822 124 22652	2,2µF 20% 50V
2139	4822 126 14236	15pF 5% 50V
2141	4822 126 13838	100nF +80-20% Y5V 50V
2142	4822 126 13838	100nF +80-20% Y5V 50V
2143	4822 126 13473	220nF 80-20% 50V

2144	4822 124 21913	1µF 20% 63V
2145	4822 122 33575	220pF 5% NP0 63V
2146	4822 122 33575	220pF 5% NP0 63V
2147	4822 122 33575	220pF 5% NP0 63V
2148	4822 126 11585	22nF +80-20% Y5V 25V

2149	5322 122 32654	22nF 10% X7R 63V
2150	4822 122 33496	100nF 10% X7R 63V
2152	4822 126 12105	33nF 5% X7R 50V
2153	4822 126 13486	15pF 2% NP0 63V
2155	4822 125 60101	3pF-11pF N450 100V

2159	5322 122 32659	33pF 5% 50V
2160	5322 122 32654	22nF 10% X7R 63V
2164	4822 126 13482	470nF 80/20% 16V
2165	4822 126 13838	100nF 80/20Y 5V 50V
2166	5322 122 31647	1nF 10% X7R 63V

2167	4822 122 33926	12pF 50V
2168	4822 126 13695	82pF 1% NP0 63V

- RESISTORS -

3101	4822 051 20333	33K 5% 0,1W
3102	4822 117 10837	100K 1% 0,1W
3103	4822 117 10965	18K 1% 0,1W
3104	4822 117 11448	180R 1% 0,1W
3105	4822 116 83872	220R 5% 0,5W

- RESISTORS -

3110	4822 116 52195	47R 5% 0,5W
3132	4822 116 52195	47R 5% 0,5W
3134	4822 051 20223	22K 5% 0,1W
3141	4822 117 11148	56K 1% 0,1W
3142	4822 100 12159	100K 30%

3145	4822 117 11449	2K2 5% 0,1W
3146	4822 051 20229	22R 5% 0,1W
3152	4822 116 83883	470R 5% 0,5W
3153	4822 051 20471	470R 5% 0,1W
3154	4822 116 52206	120R 5% 0,5W

3155	4822 051 20229	22R 5% 0,1W
3158	4822 116 83883	470R 5% 0,5W
3159	4822 116 83883	470R 5% 0,5W
3160	4822 116 83883	470R 5% 0,5W
3161	4822 116 83883	470R 5% 0,5W

3167	4822 051 20121	120R 5% 0,1W
3169	4822 051 20154	150K 5% 0,1W
3170	4822 116 52234	100K 5% 0,5W
3173	4822 116 52219	330R 5% 0,5W
3181	4822 051 20182	1K8 5% 0,1W

4101	4822 051 20008	Jumper
4102	4822 051 20008	Jumper
4103	4822 051 20008	Jumper
4104	4822 051 20008	Jumper
4105	4822 051 20008	Jumper

4106	4822 051 20008	Jumper
4108	4822 051 20008	Jumper
4111	4822 051 20008	Jumper
4120	4822 051 20008	Jumper
4150	4822 051 20008	Jumper

4152	4822 051 20008	Jumper
4153	4822 051 20008	Jumper
4154	4822 051 20008	Jumper
4157	4822 051 20008	Jumper
4158	4822 051 20008	Jumper

4159	4822 051 20008	Jumper
4163	4822 051 20008	Jumper

- COIL & FILTER -

5102	4822 157 71634	MW Aerial
5109	4822 242 70665	Filter SFE10,7MS3-A
5110	4822 242 70665	Filter SFE10,7MS3-A
5111	4822 158 60511	Coil AM-1F
5112	4822 157 70302	Coil F7MCS-12216N

5114	4822 157 70302	Coil F7MCS-12216N
5119	4822 157 11443	Coil 2µ4 10M7
5121	4822 242 10261	Crystal 75KHz T6252F00
5123	4822 157 60517	Coil 110,00µH 8%
5130	4822 157 11843	Coil MD7B-01F

ELECTRICAL PARTSLIST - ECO5 TUNER BOARD

- COIL & FILTER -

5131	4822 157 11843	Coil MD7B-01F
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- DIODES -

6103	4822 130 30621	Diode 1N4148
6104	4822 130 30621	Diode 1N4148
6105	4822 130 83075	Diode HN1V02H-B
6107	4822 130 34488	Diode BZX79-B11
6120	4822 130 30621	Diode 1N4148

6130	4822 130 82833	Diode 1SV228
6131	4822 130 82833	Diode 1SV228


- IC & TRANSISTORS -



7101	9351 740 80557	IC SM TEA5757H/V1
7102	4822 130 60093	Trans 2SA838B
7111	5322 130 42755	Trans BC847C

Note: Only these parts mentioned in the list are normal service parts.

ELECTRICAL PARTSLIST - CD (DA11 MKI)

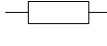
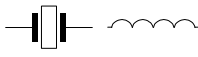
7805 = TDA7073A/N2


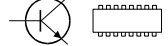
		
2802	4822 126 12785	47nF Y5V TUB 50V
2803	4822 126 11585	22nF +80-20% Y5V 25V
2804	4822 126 12878	1,5nF 10% 16V
2805	4822 121 51412	560nF 5% 63V
2806	4822 122 33519	470pF 10% 50V
2807	4822 122 33191	22pF 5% 50V
2808	4822 124 22263	220µF 20% 25V
2809	4822 124 40242	1µF 20% 63V
2810	4822 124 40242	1µF 20% 63V
2811	4822 122 33849	150pF 10%Y5P 50V
2812	4822 122 33849	150pF 10%Y5P 50V
2813	4822 126 12339	2,2nF 10% Y5R
2814	4822 126 13677	39pF 5% 50V
2815	4822 126 12882	100nF +80-20% 50V
2816	4822 124 41407	0,47µF 20% 63V
2817	4822 121 42687	3,3nF 10% 63V
2818	4822 124 40242	1µF 20% 63V
2819	5322 121 42386	100nF 5% 63V
2820	4822 121 43526	47nF 5% 250V
2821	4822 124 41579	10µF 20% 50V
2822	4822 122 10167	22nF 30% 25V
2823	4822 124 40769	4,7µF 20% 100V
2824	4822 124 41407	0,47µF 20% 63V
2825	4822 122 10462	15pF 5% NP0
2826	4822 124 41407	0,47µF 20% 63V
2827	4822 124 23178	47µF 20% 16V
2828	4822 124 41579	10µF 20% 50V
2829	5322 121 42489	33nF 5% 250V
2830	4822 122 10319	82pF 5% 50V
2831	4822 121 41856	22nF 5% 250V
2832	4822 124 41576	2,2µF 20% 50V
2833	4822 124 40433	47µF 20% 25V
2834	4822 126 12882	100nF +80-20% 50V
2835	4822 126 12882	100nF +80-20% 50V
2836	4822 124 80791	470µF 20% 16V
2837	4822 126 11585	22nF +80-20% Y5V 25V
2838	4822 126 12882	100nF +80-20% 50V
2839	4822 126 12882	100nF +80-20% 50V
2841	4822 126 13677	39pF 5% 50V
2842	4822 124 40849	330µF 20% 16V
2843	4822 126 13098	5,6nF 20% 16V
2844	4822 122 10466	220pF 10% 50V
2846	4822 122 33519	470pF 10% 50V
2848	4822 122 33519	470pF 10% 50V
2849	4822 122 10466	220pF 10% 50V

		
2860	4822 124 23178	47µF 20% 16V
		
3801	4822 052 10478	4R7 5% 0,33W
3802	4822 116 52252	180K 5% 0,5W
3803	4822 111 50499	3M3 5% 0,2W
3805	4822 116 83884	47K 5% 0,5W
3806	4822 116 52256	2K2 5% 0,5W
3807	4822 116 52271	33K 5% 0,5W
3808	4822 116 52263	2K7 5% 0,5W
3809	4822 116 83884	47K 5% 0,5W
3810	4822 116 52257	22K 5% 0,5W
3811	4822 116 52257	22K 5% 0,5W
3812	4822 116 52257	22K 5% 0,5W
3815	4822 050 11002	1K 1% 0,4W
3816	4822 050 11002	1K 1% 0,4W
3817	4822 116 83883	470R 5% 0,5W
3818	4822 116 83883	470R 5% 0,5W
3819	4822 117 11825	1M5 5%
3820	4822 116 52252	180K 5% 0,5W
3821	4822 116 52243	1K5 5% 0,5W
3822	4822 116 52264	27K 5% 0,5W
3823	4822 116 52234	100K 5% 0,5W
3824	4822 116 83868	150R 5% 0,5W
3826	4822 116 83961	6K8 5%
3827	4822 116 52269	3K3 5% 0,5W
3828	4822 116 52297	68K 5% 0,5W
3829	4822 116 83884	47K 5% 0,5W
3830	4822 116 52244	15K 5% 0,5W
3831	4822 116 52251	18K 5% 0,5W
3832	4822 116 83881	390R 5% 0,5W
3833	4822 116 52264	27K 5% 0,5W
3835	4822 116 52184	18R 5% 0,5W
3836	4822 050 11002	1K 1% 0,4W
3837	4822 111 30893	4M7 5% 0,2W
3838	4822 116 52234	100K 5% 0,5W
3839	4822 116 52235	1M 5% 0,5W
3840	4822 050 11002	1K 1% 0,4W
3841	4822 116 52298	680K 5% 0,5W
3842	4822 116 52297	68K 5% 0,5W
3844	4822 116 52291	56K 5% 0,5W
3845	4822 116 52298	680K 5% 0,5W
3846	4822 050 11002	1K 1% 0,4W

ELECTRICAL PARTSLIST - CD (DA11 MKI)

7805 = TDA7073A/N2

		
3847	4822 116 52298	680K 5% 0,5W
3848	4822 116 52251	18K 5% 0,5W
3849	4822 052 10478	4R7 5% 0,33W
3850	4822 116 52251	18K 5% 0,5W
3851	4822 116 52244	15K 5% 0,5W
3852	4822 116 83883	470R 5% 0,5W
3853	4822 116 52251	18K 5% 0,5W
3854	4822 116 52243	1K5 5% 0,5W
3855	4822 116 52264	27K 5% 0,5W
3856	4822 116 52303	8K2 5% 0,5W
3857	4822 116 52269	3K3 5% 0,5W
3858	4822 116 80176	1R 5% 0,5W
3859	4822 116 83864	10K 5% 0,5W
3860	4822 116 52207	1K2 5% 0,5W
3870	4822 052 10478	4R7 5% 0,33W
3871	4822 116 52175	100R 5% 0,5W
3880	4822 050 11002	1K 1% 0,4W
3881	4822 050 11002	1K 1% 0,4W
3882	4822 050 11002	1K 1% 0,4W
3883	4822 050 11002	1K 1% 0,4W
3884	4822 116 83882	39K 5% 0,5W
3886	4822 116 52235	1M 5% 0,5W
3890	4822 050 11002	1K 1% 0,4W
3891	4822 050 11002	1K 1% 0,4W
3892	4822 050 11002	1K 1% 0,4W
3893	4822 050 11002	1K 1% 0,4W
3894	4822 050 11002	1K 1% 0,4W
3895	4822 050 11002	1K 1% 0,4W
3896	4822 116 52256	2K2 5% 0,5W
3897	4822 116 52256	2K2 5% 0,5W
3898	4822 116 52256	2K2 5% 0,5W
3899	4822 050 11002	1K00 1% 0,4W
		
5000	4822 526 10494	Ferrite Bead
5010	4822 526 10494	Ferrite Bead
5020	4822 526 10494	Ferrite Bead
5030	4822 526 10494	Ferrite Bead
5040	4822 526 10494	Ferrite Bead
5050	4822 526 10494	Ferrite Bead
5060	4822 157 50964	Coil 100µH
5803	4822 242 73557	Filter CST8,46MTW-TF01

		
6001	4822 130 30621	Diode 1N4148
		
7801	4822 209 13703	IC M65821FP
7802	4822 209 32421	IC TDA1311A/N2
7803	4822 209 90496	IC M62475FP
7804	4822 130 42231	Trans BC557C
7805	4822 209 32852	IC TDA7073A/N2
7806	4822 209 32852	IC TDA7073A/N2
- MISCELLANEOUS -		
1802	4822 265 10925	Connector 15P
8000	4822 320 12178	Flexible Foil 15P 65mm

Note : Only those parts mentioned in the list are normal service parts.

ELECTRICAL PARTSLIST - CD97 DA11 MKI
7805 = TCA0372DP1
- CAPACITORS -

2802	4822 126 12878	1,5nF 10% 16V
2803	5322 122 32654	22nF 10% X7R 63V
2804	4822 126 12878	1,5nF 10% 16V
2805	4822 121 51412	560nF 5% 63V
2806	4822 122 33519	470pF 10% 50V
2807	4822 122 33191	22pF 5% 50V
2808	4822 124 80144	220F 20% 25V
2809	4822 124 21913	1µF 20% 63V
2810	4822 124 21913	1µF 20% 63V
2811	4822 122 33849	150pF 10% Y5P 50V
2812	4822 122 33849	150pF 10% Y5P 50V
2813	4822 126 12339	2,2nF 10% Y5R
2814	4822 126 13677	39pF 5% 50V
2815	4822 126 12882	100nF +80-20% 50V
2816	4822 124 41407	0,47µF 20% 63V
2817	4822 121 42687	3,3nF 10% 63V
2818	4822 124 21913	1µF 20% 63V
2819	5322 121 42386	100nF 5% 63V
2820	4822 121 43526	47nF 5% 250V
2821	4822 124 40248	10µF 20% 63V
2822	4822 126 11585	22nF +80-20% Y5V 25V
2823	4822 124 40769	4,7µF 20% 100V
2824	4822 124 41407	0,47µF 20% 63V
2825	4822 126 13486	15pF 2% NP0 63V
2826	4822 124 41407	0,47µF 20% 63V
2827	4822 124 81286	47µF 20% 16V
2828	4822 124 40248	10µF 20% 63V
2829	5322 121 42489	33nF 5% 250V
2830	4822 126 13695	82pF 1% NP0 63V
2831	4822 121 41856	22nF 5% 250V
2832	4822 124 22652	2,2µF 20% 50V
2833	4822 124 40433	47µF 20% 25V
2834	4822 126 14585	100nF 10% X7R 50V
2835	4822 122 30043	10nF 80% 63V
2836	4822 124 80791	470µF 20% 16V
2837	4822 126 11585	22nF +80-20% Y5V 25V
2838	4822 126 12882	100nF +80-20% 50V
2839	4822 126 12878	1,5nF 10% 16V
2841	4822 126 13677	39pF 5% 50V
2842	4822 124 80791	470µF 20% 16V
2843	4822 126 13098	5,6nF 20% 16V
2844	4822 122 10466	220pF 10% 50V
2846	4822 126 12878	1,5nF 10% 16V
2848	4822 122 33575	220pF 5% NP0 63V
2849	4822 122 33575	220pF 5% NP0 63V
2860	4822 124 81286	47µF 20% 16V
2866	5322 122 31647	1nF 10% X7R 63V
2867	5322 122 31647	1nF 10% X7R 63V
2868	4822 126 13561	220nF 10% X7R 16V
2869	4822 126 13561	220nF 10% X7R 16V

- CAPACITORS -

2870	4822 126 14585	100nF 10% X7R 50V
2871	4822 122 33575	220pF 5% NP0 63V
2872	4822 122 33575	220pF 5% NP0 63V
2873	4822 126 14585	100nF 10% X7R 50V
2874	4822 126 13561	220nF 10% X7R 16V
2875	4822 126 13561	220nF 10% X7R 16V
2876	4822 122 33575	220pF 5% NP0 63V
2877	4822 122 33575	220pF 5% NP0 63V
2878	4822 126 12878	1,5nF 10% 16V
2879	4822 126 13561	220nF 10% X7R 16V
2880	4822 126 13561	220nF 10% X7R 16V
2881	4822 122 33575	220pF 5% NP0 63V
2882	4822 126 12878	1,5nF 10% 16V
2883	4822 126 13561	220nF 10% X7R 16V
2884	4822 126 13561	220nF 10% X7R 16V
2885	4822 126 13561	220nF 10% X7R 16V
2886	4822 126 13561	220nF 10% X7R 16V
2887	4822 126 13561	220nF 10% X7R 16V
2888	4822 126 13561	220nF 10% X7R 16V
2889	4822 126 13561	220nF 10% X7R 16V
2890	4822 126 13561	220nF 10% X7R 16V
2891	4822 126 13561	220nF 10% X7R 16V
2892	4822 126 13561	220nF 10% X7R 16V
3801	4822 052 10478	4R7 5% 0,33W
3802	4822 116 52252	180K 5% 0,5W
3803	4822 111 50499	3M3 5% 0,2W
3805	4822 116 83884	47K 5% 0,5W
3806	4822 116 52256	2K2 5% 0,5W
3807	4822 050 23303	33K 1% 0,6W
3808	4822 116 52263	2K7 5% 0,5W
3809	4822 116 83884	47K 5% 0,5W
3810	4822 116 52257	22K 5% 0,5W
3811	4822 116 52257	22K 5% 0,5W
3812	4822 116 52257	22K 5% 0,5W
3815	4822 050 11002	1K 1% 0,4W
3816	4822 050 11002	1K 1% 0,4W
3817	4822 116 83883	470R 5% 0,5W
3818	4822 116 83883	470R 5% 0,5W
3819	4822 117 11825	1M5 5%
3820	4822 116 52252	180K 5% 0,5W
3821	4822 116 52243	1K5 5% 0,5W
3822	4822 116 52264	27K 5% 0,5W
3823	4822 116 52234	100K 5% 0,5W
3824	4822 116 83868	150R 5% 0,5W
3826	4822 116 83961	6K8 5%
3827	4822 116 52269	3K3 5% 0,5W
3828	4822 116 52297	68K 5% 0,5W
3829	4822 116 83884	47K 5% 0,5W

- RESISTORS -
ELECTRICAL PARTSLIST - CD97 DA11 MKI
7805 = TCA0372DP1
- RESISTORS -

3830	4822 116 83933	15K 1% 0,1W
3831	4822 117 10965	18K 1% 0,1W
3832	4822 051 20391	390R 5% 0,1W
3833	4822 116 52264	27K 5% 0,5W
3835	4822 051 20189	18R 5% 0,1W
3836	4822 050 11002	1K 1% 0,4W
3837	4822 051 20475	4M7 5% 0,1W
3838	4822 117 10837	100K 1% 0,1W
3839	4822 116 83866	1M 5% 0,5W
3840	4822 051 10102	1K 2% 0,25W
3841	4822 051 20684	680K 5% 0,1W
3842	4822 051 20683	68K 5% 0,1W
3844	4822 116 52291	56K 5% 0,5W
3845	4822 116 52257	22K 5% 0,5W
3846	4822 117 11449	2K2 5% 0,1W
3847	4822 116 52257	22K 5% 0,5W
3848	4822 117 11449	2K2 5% 0,1W
3849	4822 052 10478	4R70 5% 0,33W
3850	4822 117 10354	22K 1% 0,1W
3851	4822 116 52257	22K 5% 0,5W
3852	4822 116 52256	2K2 5% 0,5W
3853	4822 116 83961	6K8 5%
3854	4822 117 11449	2K2 5% 0,1W
3855	4822 116 52257	22K 5% 0,5W
3856	4822 116 52303	8K2 5% 0,5W
3857	4822 116 52269	3K3 5% 0,5W
3858	4822 051 20108	1R 5% 0,1W
3859	4822 117 10833	10K 1% 0,1W
3860	4822 116 52207	1K2 5% 0,5W
3870	4822 052 10478	4R70 5% 0,33W
3871	4822 116 52175	100R 5% 0,5W
3880	4822 050 11002	1K 1% 0,4W
3881	4822 050 11002	1K 1% 0,4W
3882	4822 050 11002	1K 1% 0,4W
3883	4822 050 11002	1K 1% 0,4W
3884	4822 051 20393	39K 5% 0,1W
3886	4822 051 20105	1M 5% 0,1W
3890	4822 050 11002	1K 1% 0,4W
3891	4822 050 11002	1K 1% 0,4W
3892	4822 050 11002	1K 1% 0,4W
3893	4822 051 10102	1K 2% 0,25W
3894	4822 051 10102	1K 2% 0,25W
3895	4822 050 11002	1K 1% 0,4W
3896	4822 116 52256	2K2 5% 0,5W
3897	4822 116 52256	2K2 5% 0,5W
3898	4822 116 52256	2K2 5% 0,5W
3899	4822 051 10102	1K 2% 0,25W
3900	4822 117 10834	47K 1% 0,1W
3901	4822 051 20229	22R 5% 0,1W
3902	4822 051 20229	22R 5% 0,1W

- RESISTORS -

3903	4822 116 52256	2K2 5% 0,5W
3904	4822 116 83933	15K 1% 0,1W
3905	4822 116 83933	15K 1% 0,1W
3906	2120 108 92632	33K 1%
3907	4822 117 11449	2K2 5% 0,1W
3908	4822 051 20229	22R 5% 0,1W
3909	4822 051 20229	22R 5% 0,1W
3910	4822 117 11449	2K2 5% 0,1W
3911	4822 116 83933	15K 1% 0,1W
3912	2120 108 92632	33K 1%
3913	4822 051 20229	22R 5% 0,1W
3914	4822 051 20229	22R 5% 0,1W
3915	4822 116 52256	2K2 5% 0,5W
3916	4822 116 83933	15K 1% 0,1W
3917	2120 108 92632	33K 1%
3918	4822 051 20229	22R 5% 0,1W
3919	4822 051 20229	22R 5% 0,1W
3920	4822 117 12342	18K 1% 0,1W
3921	4822 116 83933	15K 1% 0,1W
4800	4822 051 20008	Jumper
4801	4822 051 20008	Jumper
4802	4822 051 20008	Jumper
4803	4822 051 20008	Jumper
4804	4822 051 20008	Jumper
4805	4822 051 20008	Jumper
4806	4822 051 20008	Jumper
4807	4822 051 20008	Jumper
4808	4822 051 20008	Jumper
4809	4822 051 20008	Jumper
4810	4822 051 20008	Jumper
4811	4822 051 20008	Jumper
4812	4822 051 20008	Jumper
4813	4822 051 20008	Jumper
4814	4822 051 20008	Jumper
4815	4822 051 20008	Jumper
4816	4822 051 20008	Jumper
4817	4822 051 20008	Jumper
4818	4822 051 20008	Jumper
5000	4822 157 70826	Coil 2,4µH
5010	4822 157 70826	Coil 2,4µH
5020	4822 157 70826	Coil 2,4µH
5030	4822 157 70826	Coil 2,4µH
5040	4822 157 70826	Coil 2,4µH
5050	4822 157 70826	Coil 2,4µH
5060	4822 157 50964	Coil 100µH
5803	4822 242 73557	Filter CST8,46MTW-TF01

- COILS & FILTER -

ELECTRICAL PARTSLIST - CD97 DA11 MKI **7805 = TCA0372DP1**

- DIODE -

6001	4822 130 30621	Diode 1N4148
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- IC & TRANSISTOR -

7801	4822 209 13703	IC M65821FP
7802	4822 209 32421	IC TDA1311A/N2
7803	4822 209 90496	IC M62475FP
7804	9336 500 90126	Trans BC557C
7805	4822 209 62059	IC TCA0372DP1

7806	4822 209 62059	IC TCA0372DP1
7808	4822 209 62059	IC TCA0372DP1
7809	4822 209 62059	IC TCA0372DP1

- MISCELLANEOUS -

1802	4822 265 10925	FFC 15P
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**Note: Only these parts mentioned in the list are
normal service parts.**

ELECTRICAL PARTSLIST - MAIN BOARD

L101	4822 157 11371	COIL 47µH
L801	4822 157 11371	COIL 47µH

D101	4822 130 30621	DIODE 1N4148
D102	4822 130 30621	DIODE 1N4148
D103	4822 130 30621	DIODE 1N4148
D104	4822 130 30621	DIODE 1N4148
D105	4822 130 30621	DIODE 1N4148
D107	4822 130 30621	DIODE 1N4148
D110	4822 130 30621	DIODE 1N4148
D802	4822 130 30621	DIODE 1N4148
D803	4822 130 30621	DIODE 1N4148
D804	4822 130 30621	DIODE 1N4148
D805	4822 130 30621	DIODE 1N4148
D806	4822 130 31438	DIODE 1N4001G
Z101	5322 130 31504	DIODE BZX79-B3V3
Z801	4822 130 34488	DIODE BZX79-B11

- IC & TRANSISTORS -

IC101	9965 000 01767	IC PT233
IC102	4822 209 31544	IC TA8227P
Q101	4822 130 44503	TRANS BC547C
Q102	4822 130 41327	TRANS BC327-40
Q103	4822 130 44503	TRANS BC547C
Q104	4822 130 44503	TRANS BC547C
Q106	4822 130 41327	TRANS BC327-40
Q108	4822 130 44503	TRANS BC547C
Q109	4822 130 44503	TRANS BC547C
Q110	4822 130 44568	TRANS BC557B
Q111	4822 130 44568	TRANS BC557B
Q112	4822 130 44568	TRANS BC557B
Q113	4822 130 44568	TRANS BC557B
Q114	4822 130 41344	TRANS BC337-40
Q115	4822 130 41344	TRANS BC337-40
Q116	4822 130 44503	TRANS BC547C
Q117	4822 130 41327	TRANS BC327-40
Q118	4822 130 41327	TRANS BC327-40
Q119	4822 130 44568	TRANS BC557B
Q120	4822 130 42231	TRANS BC557C
Q122	4822 130 41344	TRANS BC337-40
Q123	4822 130 41344	TRANS BC337-40
Q801	4822 130 44568	TRANS BC557B
Q802	4822 130 40959	TRANS BC547B
Q803	4822 130 40959	TRANS BC547B

TRANS BC547B

- MISCELLANEOUS -

JK1	4822 265 11614	STEREO PHONE JACK
SW101	4822 276 14099	POWER SWITCH

Only these parts mentioned in the list are normal service parts.

ELECTRICAL PARTSLIST - RECORDER BOARD

- CAPACITORS -

2703 4822 124 41397 47µF 20% 25V
 2704 4822 124 41596 22µF 20% 50V
 2705 4822 124 40246 4,7µF 20% 63V
 2706 4822 124 41397 220µF 20% 10V
 2708 4822 124 41397 220µF 20% 10V

2709 4822 124 80144 220µF 20% 25V
 2710 4822 124 41397 47µF 20% 25V
 2711 4822 124 41397 47µF 20% 25V
 2712 4822 124 41397 47µF 20% 25V
 2713 4822 124 80144 220µF 20% 25V

2714 4822 124 41397 47µF 20% 25V
 2715 4822 124 41596 22µF 20% 50V
 2716 4822 124 41596 22µF 20% 50V
 2718 4822 124 41397 47µF 20% 25V
 2719 4822 124 41397 47µF 20% 25V

2721 4822 126 11585 22nF +80-20% Y5V 25V
 2722 4822 122 10577 3,3nF 10% 16V
 2723 4822 121 51304 10nF 10% 50V
 2724 4822 122 33169 680pF 10% 50V
 2727 4822 122 10577 3,3nF 10% 16V

2728 4822 121 51305 15nF 10% 50V
 2729 4822 126 12787 330pF 10% Y5V 50V
 2730 4822 121 43898 8,2nF 5% 250V
 2731 4822 126 11585 22nF +80-20% Y5V 25V
 2732 4822 126 11585 22nF +80-20% Y5V 25V

2733 4822 126 12339 2,2nF 10% Y5R
 2734 5322 122 32311 470pF 10% 100V
 2735 4822 121 51305 15nF 10% 50V
 2736 4822 126 12787 330pF 10% Y5V 50V
 2737 4822 121 43898 8,2nF 5% 250V

2738 4822 126 11585 22nF +80-20% Y5V 25V
 2739 4822 122 33195 100pF 10% 50V
 2740 4822 122 33197 1nF 10% 50V
 2741 4822 122 33197 1nF 10% 50V
 2742 4822 122 33195 100pF 10% 50V

2743 4822 126 12339 2,2nF 10% Y5R
 2744 5322 122 32311 470pF 10% 100V
 2745 4822 126 12339 2,2nF 10% Y5R
 2746 5322 122 32311 470pF 10% 100V
 2747 4822 121 51305 15nF 10% 50V

2748 4822 126 11585 22nF +80-20% Y5V 25V
 2749 4822 126 12339 2,2nF 10% Y5R
 2750 5322 122 32311 470pF 10% 100V
 2751 4822 121 51305 15nF 10% 50V
 2752 4822 122 10577 3,3nF 10% 16V

2755 4822 124 41596 22µF 20% 50V
 2759 4822 122 33519 470pF 10% 50V
 2760 4822 122 33519 470pF 10% 50V
 2761 4822 122 33169 680pF 10% 50V
 2762 4822 122 33169 680pF 10% 50V

- CAPACITORS -

2763 4822 124 41584 100µF 20% 10V

- RESISTORS -

3701 4822 116 83863 1K 5% 0,5W
 3704 4822 116 52176 10R 5% 0,5W
 3705 4822 116 83863 1K 5% 0,5W
 3706 4822 111 30893 4M7 5% 0,2W
 3707 4822 116 52176 10R 5% 0,5W

3708 4822 116 52297 68K 5% 0,5W
 3711 4822 116 52244 15K 5% 0,5W
 3712 4822 116 52244 15K 5% 0,5W
 3713 4822 116 52297 68K 5% 0,5W
 3714 4822 116 52297 68K 5% 0,5W

3715 4822 116 52207 1K2 5% 0,5W
 3716 4822 116 52303 8K2 5% 0,5W
 3717 4822 116 52219 330R 5% 0,5W
 3718 4822 116 83864 10K 5% 0,5W
 3719 4822 116 52269 3K3 5% 0,5W

3720 4822 116 52269 3K3 5% 0,5W
 3721 4822 116 52245 150K 5% 0,5W
 3722 4822 116 83872 220R 5% 0,5W
 3723 4822 116 52224 470R 5% 0,5W
 3724 4822 116 52186 22R 5% 0,5W

3725 4822 116 52303 8K2 5% 0,5W
 3726 4822 116 52207 1K2 5% 0,5W
 3727 4822 116 52219 330R 5% 0,5W
 3728 4822 116 83864 10K 5% 0,5W
 3729 4822 116 52269 3K3 5% 0,5W

3730 4822 116 52269 3K3 5% 0,5W
 3731 4822 116 52245 150K 5% 0,5W
 3733 4822 116 52244 15K 5% 0,5W
 3734 4822 116 52289 5K6 5% 0,5W
 3736 4822 116 52244 15K 55 0,5W

3737 4822 116 52245 150K 5% 0,5W
 3738 4822 116 83872 220R 5% 0,5W
 3739 4822 116 52224 470R 55 0,5W
 3740 4822 116 52283 4K7 5% 0,5W
 3741 4822 116 52186 22R 5% 0,5W

3742 4822 116 52245 150K 5% 0,5W
 3743 4822 116 83872 220R 5% 0,5W
 3744 4822 116 52224 470R 55 0,5W
 3745 4822 116 52283 4K7 5% 0,5W
 3746 4822 116 52186 22R 5% 0,5W

3747 4822 116 52289 5K6 5% 0,5W
 3748 4822 116 83872 220R 5% 0,5W
 3749 4822 116 52245 150K 55 0,5W
 3750 4822 116 83872 220R 5% 0,5W
 3751 4822 116 52224 470R 55 0,5W

ELECTRICAL PARTSLIST - RECORDER BOARD

- RESISTORS -

3752 4822 116 52186 22R 5% 0,5W
 3753 4822 116 83872 220R 5% 0,5W
 3756 4822 116 52238 12K 5% 0,5W
 3757 4822 116 52238 12K 5% 0,5W
 3759 4822 116 52176 10R 5% 0,5W

3760 4822 116 83864 10K 5% 0,5W
 3766 4822 116 83864 10K 5% 0,5W
 3767 4822 116 83864 10K 5% 0,5W
 3779 4822 116 83864 10K 5% 0,5W
 3780 4822 116 52245 150K 5% 0,5W

3781 4822 116 52224 470R 5% 0,5W
 3782 4822 116 52224 470R 5% 0,5W
 3783 4822 116 83864 10K 5% 0,5W
 3784 4822 116 83864 10K 5% 0,5W
 3785 4822 116 83872 220R 5% 0,5W

3787 4822 116 52191 33R 5% 0,5W
 3788 4822 116 52256 2K2 5% 0,5W
 3789 4822 116 52256 2K2 5% 0,5W

- COIL -

5701 4822 157 10371 Coil 126XNS-8430D

- DIODE -

6703 4822 130 30621 Diode 1N4148

- IC & TRANSISTORS -

7704 4822 130 40981 Trans BC337-25
 7711 4822 209 32918 IC AN7318S
 7712 4822 209 32918 IC AN7318S
 7715 5322 130 44779 Trans BC338-40
 7716 5322 130 44779 Trans BC338-40

7720 4822 130 44196 Trans BC548C
 7721 4822 130 44196 Trans BC548C

- MISCELLANEOUS -

1707 4822 277 11504 Slide Switch 6D2POS

Note: Only these parts mentioned in the list are normal service parts.

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ELECTRICAL PARTSLIST - FRONT BOARD

- COIL & FILTER -

CY201	4822 242 11034	FILTER DCRHTL4.19
L201	9965 000 08177	INDUCTOR 100μH

- DIODES -

D201	4822 130 30621	DIODE 1N4148
D202	4822 130 30621	DIODE 1N4148
D203	4822 130 31554	DIODE BZX79-B4V3
D204	4822 130 30621	DIODE 1N4148
D205	4822 130 30621	DIODE 1N4148

D206	4822 130 11632	LED L-934EC (RED)
D207	4822 130 11632	LED L-934EC (RED)
D208	4822 130 11632	LED L-934EC (RED)
D209	4822 130 10621	DIODE HZS2C-1/MTZJ2.2B
D210	4822 130 30621	DIODE 1N4148

D211	4822 130 30621	DIODE 1N4148
D212	4822 130 30621	DIODE 1N4148
D213	4822 130 30621	DIODE 1N4148
D214	4822 130 30621	DIODE 1N4148
D215	4822 130 30621	DIODE 1N4148

- IC & TRANSISTORS -

IC201	4822 209 16811	IC TMP47C823F-AZ1209/14.1
IC202	4822 209 17536	IC BU4093BF
IC203	9965 000 05603	IC ST24C01
IC204	9965 000 08176	IR RECEIVER PIC26043T2
Q201	4822 130 63014	TRANS 2SC536G

Q202	4822 130 63014	TRANS 2SC536G
Q203	4822 130 63014	TRANS 2SC536G
Q204	4822 130 63014	TRANS 2SC536G

- MISCELLANEOUS -

LCD	9965 000 02796	LCD DISPLAY
SW201	4822 276 14101	PUSH SWITCH
SW202	4822 276 13797	TACT SWITCH 1P2T
SW203	4822 276 13797	TACT SWITCH 1P2T
SW204	4822 276 13797	TACT SWITCH 1P2T

SW205	4822 276 13797	TACT SWITCH 1P2T
SW206	4822 276 13797	TACT SWITCH 1P2T
SW207	4822 276 13797	TACT SWITCH 1P2T
SW208	4822 276 13797	TACT SWITCH 1P2T
SW209	4822 276 13797	TACT SWITCH 1P2T

SW210	4822 276 13797	TACT SWITCH 1P2T
SW211	4822 276 13797	TACT SWITCH 1P2T
SW212	4822 276 13797	TACT SWITCH 1P2T
SW213	4822 276 13797	TACT SWITCH 1P2T
SW214	4822 276 13797	TACT SWITCH 1P2T

SW215	4822 276 13797	TACT SWITCH 1P2T
SW216	4822 276 13797	TACT SWITCH 1P2T

Note: Only these parts mentioned in the list are normal service parts.

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ELECTRICAL PARTSLIST - RECTIFIER BOARD

- DIODES -

D110	5322 130 30684	DIODE 1N4002RL
D111	5322 130 30684	DIODE 1N4002RL
D112	5322 130 30684	DIODE 1N4002RL
D113	5322 130 30684	DIODE 1N4002RL

- MISCELLANEOUS -

F1	4822 070 31602	FUSE 1.6A
	4822 265 11615	SPEAKER TERMINAL
	4822 277 11887	VOLTAGE SELECTOR

Only these parts mentioned in the list are normal service parts.

ELECTRICAL PARTSLIST - MISCELLANEOUS

- MISCELLANEOUS -

	4822 240 10377	SPEAKER 5" 4 OHM
⚠	4822 146 11192	TRANSF 120/230V (FOR -/01/16)
⚠	4822 146 11158	TRANSF 120V (FOR -/17)
⚠	4822 265 10741	AC SOCKET (FOR -/01/16)
⚠	4822 265 20644	AC SOCKET (FOR -/17)

Only these parts mentioned in the list are normal service parts.